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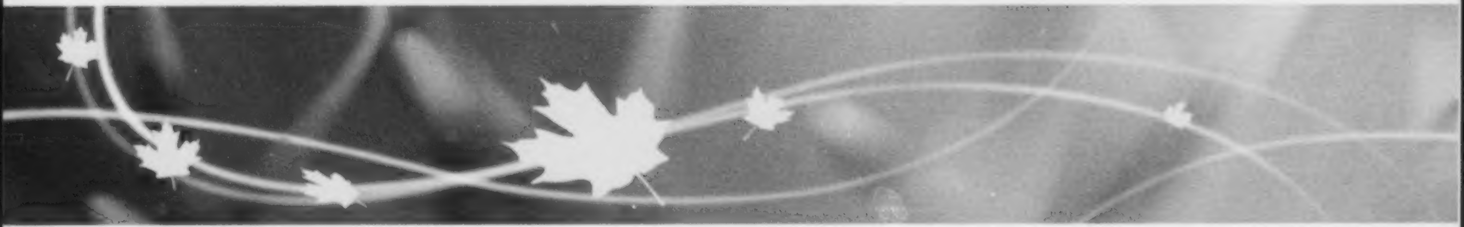

ENVIRONMENT CANADA DEPARTMENTAL PERFORMANCE REPORT

2012–13

The Honourable Leona Aglukkaq, P.C., M.P.
Minister of the Environment

Canada

Departmental Performance Report 2012-13

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Minister's Message

As Canada's Environment Minister, I am pleased to present the 2012–2013 Departmental Performance Report. This report outlines Environment Canada's progress in addressing the priorities and commitments set out in the 2012–2013 Report on Plans and Priorities.

Canada's environment affects us all, and our individual and collective actions do make a difference. I thank Canadians for the commitment they have shown and look forward to working with them on the shared challenges and responsibilities we face together.

Environment Canada is committed to operating as a world-class regulator. This involves ensuring that our efforts to protect our environment are science-based, effective, efficient, transparent and adaptable over time.

Environment Canada continues to make progress in addressing climate change and advancing the clean air agenda. Our approach to reducing greenhouse gases has seen the introduction of strict new rules on emissions for coal-fired electricity plants, making Canada the first country in the world to ban construction of traditional coal plants. We have also set even more stringent emission regulations for light-duty vehicles for the 2017–2025 period.

Working with the provinces and territories, we finalized a national Air Quality Management System and are preparing the first set of draft emission requirements for major industries across Canada.

On the international stage, we concluded work with the Arctic Council on short-lived climate pollutants (SLCPs), and we are proud to have been a founding member, lead partner and major financial contributor to the Climate and Clean Air Coalition, established this past year to reduce SLCPs such as black carbon, methane, and certain hydrofluorocarbons (HFCs).

Under the Chemicals Management Plan, we continued to protect Canadians and their environment through measures such as requiring manufacturers to establish and report on Pollution Prevention Plans for substances such as Bisphenol A and Isoprene.

On biodiversity, we continued to safeguard species at risk (including the boreal caribou) and species of concern (including the polar bear) and increased protected habitats. In 2012–2013, Environment Canada maintained and managed National Wildlife Areas and Migratory Bird Sanctuaries encompassing a total of 12,448,961 hectares. This is more than twice the size of the Province of Nova Scotia. We also engaged stakeholders in developing the framework for a National Conservation Plan.

On water issues, we finalized amendments to the Great Lakes Water Quality Agreement which will safeguard this invaluable ecosystem into the future. We continued to provide provinces and territories with data on water monitoring and flood forecasts and invested in new field technologies for real-time level and flow estimations.

Canadians were provided with weather forecasts and warned of severe weather events, such as Hurricane Sandy. Some of the investments announced by the Government of Canada in Budget 2010 and 2011 were directed to strengthening weather monitoring and forecasting. This included upgrades to the Canadian Weather Radar Network, the Canadian Weather and Climate Observing Networks and the Canadian Lightning Detection Network and upgrades to weather monitoring in the Arctic. In Budget 2013, the Government of Canada announced an additional $248 million over five years to further revitalize Canada's weather services.

Environment Canada has established extensive monitoring activities in the oil sands, as part of an expanded and transparent monitoring of air, water, land and biodiversity in the area. The Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring represents the largest monitoring initiative ever undertaken by Environment Canada.

The year also saw the tabling of the second Federal Sustainable Development Strategy (FSDS) Progress Report and the release of the draft 2013–2016 FSDS for public consultation, which further advanced our commitment to making environmental decision making more transparent and accountable.

I invite you to read the report for details of these and many more activities undertaken to ensure a clean, safe and sustainable environment for today and for generations to come.

The Honourable Leona Aglukkaq, P.C., M.P.
Minister of the Environment

SECTION I: ORGANIZATIONAL OVERVIEW

Raison d'être

Environment Canada is the lead federal department for a wide range of environmental issues affecting Canadians. The Department also plays a stewardship role in achieving and maintaining a clean, safe and sustainable environment. A science-based department, Environment Canada addresses issues through monitoring, research, policy development, service delivery to Canadians, regulations, enforcement of environmental laws, advancement of clean technologies and strategic partnerships. The Department's programs focus on ***a clean environment*** by minimizing threats to Canadians and their environment from pollution; ***a safe environment*** by equipping Canadians to make informed decisions on weather, water and climate conditions; and ***a sustainable environment*** by conserving and restoring Canada's natural environment. The Department's program focus reflects the increasingly evident interdependence between environmental sustainability and economic well-being.

Responsibilities

A number of acts and regulations provide the Department with its mandate and allow it to carry out its programs. Under the *Department of the Environment Act*, the powers, duties and functions of the Minister of the Environment extend to and include matters relating to

- the preservation and enhancement of the quality of the natural environment, including water, air and soil quality, and the coordination of the relevant policies and programs of the Government of Canada;
- renewable resources, including migratory birds and other non-domestic flora and fauna;
- water;
- meteorology; and
- the enforcement of any rules or regulations such as those made by the International Joint Commission relating to boundary waters.

Beyond those authorities conferred under the *Department of the Environment Act*, the Minister of the Environment exercises additional authorities provided under other acts and regulations[i] including (but not limited to) the *Canadian Environmental Protection Act, 1999* (CEPA 1999), the *Federal Sustainable Development Act*, and several pieces of legislation relating to the protection of biodiversity and water and the enforcement of environmental laws and regulations (e.g. the *Species at Risk Act*). Under the *Canadian Environmental Assessment Act*, Environment Canada provides information and analysis to others (as a federal authority) to support robust environmental assessments.

The Department is a key partner to other federal departments (including its ministerial portfolio partners, the Canadian Environmental Assessment Agency and Parks Canada), where statutes provide Environment Canada with secondary or shared responsibility for the successful execution of other federal departments' mandates. These statutes include, among others, the *Arctic Waters Pollution Prevention Act* (Transport Canada, Aboriginal Affairs and Northern Development Canada, and Natural Resources Canada), the *Canada Foundation for Sustainable Development Technology Act* (Natural Resources Canada), the *Fisheries Act* (Fisheries and Oceans Canada) and the *Marine Liability Act* (Transport Canada).

Environment Canada has a long history. The Department was created in 1971, but some of its component organizations are much older, such as the Canadian Wildlife Service founded in 1947, the Water Survey of Canada in 1908, and the Meteorological Service of Canada in 1871.

Environment Canada has a national workforce. About 60% of our workforce is located outside the National Capital Region. Department employees are located across Canada, from Iqaluit to Burlington and Vancouver to St. John's, working in field offices, laboratories, National Wildlife Areas and weather stations.

Environment Canada is a science-based department. The Department devotes significant budget and workforce resources to science and technology activities in diverse fields, including biology, chemistry, atmospheric and environmental sciences, hydrology, meteorology, engineering, and informatics. Science and technology form the foundation of the Department's work; they are central to Environment Canada's capacity to achieve its mandate and meet its legislative obligations. The Department collects and disseminates knowledge to support sound environmental decision making and encourages innovation in science and technology.

Environment Canada works collaboratively with many partners. Environmental issues have wide-ranging implications for social and economic decisions. Environment Canada works in collaboration with many partners, including other federal government departments, provincial and territorial governments, Aboriginal governments, the governments of other nations, academic institutions, environmental non-governmental organizations, and international organizations. This collaboration enhances the efforts of all partners in working for a clean, safe and sustainable environment.

Environment Canada is committed to operating as a world-class regulator. As an important federal regulator, Environment Canada works within the broader federal performance-based regulatory system by developing, promoting compliance with and enforcing a wide array of regulations to protect Canadians and their environment. Environment Canada is committed to having a regulatory system that is evidence-based, effective, efficient, transparent and adaptable.

Strategic Outcomes and Program Alignment Architecture

Environment Canada fulfills its mandate by promoting three Strategic Outcomes, each contributing to the Government of Canada outcome of a clean and healthy environment.

***Strategic Outcome 1:* Canada's natural environment is conserved and restored for present and future generations.**
This Strategic Outcome is aimed at ensuring that land, water and biodiversity are sustained so that Canadians can enjoy and benefit from their natural legacy over the long term.

***Strategic Outcome 2:* Canadians are equipped to make informed decisions on changing weather, water and climate conditions.**
Canadians need to have information and services to enable them to respond and adapt to immediate and longer-term changes in weather, water, air quality and climate conditions that affect their health, safety and economic well-being.

***Strategic Outcome 3:* Threats to Canadians and their environment from pollution are minimized.**
This Strategic Outcome addresses the management and reduction of pollution and waste that directly or indirectly harms human health or the environment.

Program Alignment Architecture

There are 9 Programs and 25 Sub-Programs that are aligned to support the achievement of the Department's 3 Strategic Outcomes. Together, the Programs, Sub-Programs and Strategic Outcomes support progress against the Department's stewardship mandate of providing a clean, safe and sustainable environment. In addition to conducting these Programs, Environment Canada maintains core internal corporate services.

All of the Department's Strategic Outcomes, Programs and Sub-Programs, and Internal Services are illustrated within Environment Canada's 2012–2013 Program Alignment Architecture shown on page 6.

2012–2013 Environment Canada Program Alignment Architecture

GOVERNMENT OF CANADA PRIORITY: CLEAN AND HEALTHY ENVIRONMENT

Legend
Strategic outcomes
Programs
Sub-programs
Sub-programs

SUSTAINABLE

Strategic Outcome 1: Canada's natural environment is conserved and restored for present and future generations.

- **1.1 Biodiversity–Wildlife and Habitat**
  - 1.1.1 Biodiversity Policy and Priorities
  - 1.1.2 Species at Risk
    - 1.1.2.1 Species at Risk Operations
    - 1.1.2.2 Aboriginal Fund for Species at Risk
    - 1.1.2.3 Habitat Stewardship Program
  - 1.1.3 Migratory Birds
  - 1.1.4 Wildlife Habitat Conservation
    - 1.1.4.1 Habitat Conservation Partnerships
    - 1.1.4.2 Invasive Alien Species Partnership
    - 1.1.4.3 Protected Areas
- **1.2 Water Resources**
  - 1.2.1 Water Quality and Aquatic Ecosystems Health
  - 1.2.2 Water Resource Management and Use
  - 1.2.3 Hydrological Service and Water Survey
- **1.3 Sustainable Ecosystems**
  - 1.3.1 Sustainability Reporting and Indicators
  - 1.3.2 Ecosystem Assessment and Approaches
  - 1.3.3 Community Engagement
    - 1.3.3.1 EcoAction Community Funding
    - 1.3.3.2 Environmental Damages Fund
    - 1.3.3.3 Environmental Youth Employment
    - 1.3.3.4 Education and Engagement
  - 1.3.4 Ecosystems Initiatives
    - 1.3.4.1 Great Lakes
    - 1.3.4.2 St. Lawrence
    - 1.3.4.3 Lake Simcoe
    - 1.3.4.4 Lake Winnipeg
    - 1.3.4.5 Community Ecosystem Partnerships
- **1.4 Compliance Promotion and Enforcement–Wildlife**

SAFE

Strategic Outcome 2: Canadians are equipped to make informed decisions on changing weather, water and climate conditions.

- **2.1 Weather and Environmental Services for Canadians**
  - 2.1.1 Weather Observations, Forecasts and Warnings
  - 2.1.2 Health-related Meteorological Information
  - 2.1.3 Climate Information, Predictions and Tools
- **2.2 Weather and Environmental Services for Targeted Users**
  - 2.2.1 Meteorological Services in Support of Air Navigation
  - 2.2.2 Meteorological and Ice Services in Support of Marine Navigation
  - 2.2.3 Meteorological Services in Support of Military Operations
  - 2.2.4 Meteorological Services for Economic and Commercial Sectors

CLEAN

Strategic Outcome 3: Threats to Canadians and their environment from pollution are minimized.

- **3.1 Substances and Waste Management**
  - 3.1.1 Substances Management
  - 3.1.2 Waste Management
    - 3.1.2.1 Waste Reduction and Management
    - 3.1.2.2 Marine Pollution
  - 3.1.3 Environmental Emergencies
  - 3.1.4 Contaminated Sites
- **3.2 Climate Change and Clean Air**
  - 3.2.1 Climate Change and Clean Air Regulatory Program
    - 3.2.1.1 Industrial Sector Emissions
    - 3.2.1.2 Transportation Sector Emissions
    - 3.2.1.3 Consumer and Commercial Products Sector
    - 3.2.1.4 Market Mechanism
  - 3.2.2 International Climate Change and Clean Air Partnership
  - 3.2.3 Environmental Technology
    - 3.2.3.1 Sustainable Development Technologies
    - 3.2.3.2 Environmental Technology Innovation
- **3.3 Compliance Promotion and Enforcement–Pollution**

- **4.1 Internal Services**
  - 4.1.1 Governance and Management Support
    - 4.1.1.1 Management and Oversight
    - 4.1.1.2 Communications
    - 4.1.1.3 Legal
  - 4.1.2 Resource Management Services
    - 4.1.2.1 Human Resources Management
    - 4.1.2.2 Financial Management
    - 4.1.2.3 Information Management
    - 4.1.2.4 Information Technology
    - 4.1.2.5 Travel and Other Administrative Services
  - 4.1.3 Asset Management Services
    - 4.1.3.1 Real Property
    - 4.1.3.2 Material
    - 4.1.3.3 Acquisition

Organizational Priorities 2012–2013

Environment Canada delivered successfully on its priorities during 2012–2013. Examples of progress achieved are set out below.

A Clean Environment: Manage substances and waste, and reduce pollution that directly or indirectly harms human health or the environment.

Type: Ongoing (Restated)	**Links to Strategic Outcome 3:** *Threats to Canadians and their environment from pollution are minimized.*
Links to Programs: 3.1 Substances and Waste Management 3.2 Climate Change and Clean Air 3.3 Compliance Promotion and Enforcement–Pollution and 1.4 Compliance Promotion and Enforcement–Wildlife	

Progress Achieved:

Greenhouse gas emissions

- Published final regulations to limit greenhouse gas (GHG) emissions from coal-fired electricity generation and from new on-road heavy-duty vehicles (2014 and later model years).
- Developed and published proposed regulations to set more stringent GHG emissions standards for light-duty vehicles for model years 2017 and beyond—aligned with U.S. standards.
- Continued to advance sector-by-sector regulatory work to reduce GHGs.

Air Quality Management System

- Achieved agreement among federal, provincial and territorial ministers to move forward on implementing the new Air Quality Management System (AQMS) in collaboration with the provinces and territories. Under the AQMS, the federal government is responsible for developing/publishing Canadian Ambient Air Quality Standards (CAAQS) and implementing the base-level industrial emission requirements (BLIERs) requirements under the *Canadian Environmental Protection Act, 1999*.
- Finalized new CAAQS for fine particulate matter ($PM_{2.5}$) and ozone and published them in the *Canada Gazette*, Part 1, on May 25, 2013.
- Completed pre-regulatory development and consultations for the first phase of regulated BLIERs for the cement sector and for non-utility industrial boilers and heaters and natural gas-fired reciprocating engines.

Collaborative efforts on climate change and air quality

- Concluded work under the Arctic Council Task Force on Short-Lived Climate Forcers (also referred to as short-lived climate pollutants or SLCPs), including the development of recommendations for mitigation of SLCPs. The final report was endorsed by Arctic ministers in May 2013.
- Continued Canada's active participation (as founding member and lead partner) in the Climate and Clean Air Coalition to reduce SLCPs. Canada contributed $13 million to support the Coalition and another $7 million for bilateral projects that support long-term mitigation of SLCPs in developing countries.
- Represented Canada at negotiations to finalize and adopt revisions to the 1999 Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (the Gothenburg Protocol) under the United Nations Economic Commission for Europe's Convention on Long-range Transboundary Air Pollution. This work will allow for Canada's possible future ratification of the Protocol.
- Represented Canada at negotiations, under the auspices of the United Nations Environment Programme, to finalize the text of a global, legally binding agreement to prevent mercury emissions and releases (treaty to be known as the Minamata Convention on Mercury).
- Delivered contributions of over $49 million in climate change support to developing countries under the fast start financing program.
- Through the Canada–United States Air Quality Agreement, continued to cooperate with the United States to reduce the transboundary movement of air pollutants, particularly those that cause acid rain and smog.
- Continued air quality monitoring and related science across Canada, including in support of the AQMS and under the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring.
- Published reports and papers, in peer-reviewed scientific literature, covering topics related to smog, acid deposition and mercury, as well as reports and papers on understanding the impacts on air quality of pollutants from sources such as the transportation and fuel sectors.

Existing and new substances

- Carried out targeted action on substances under the Chemicals Management Plan (CMP), ranging from putting in place pollution prevention planning requirements for substances (including Bisphenol A and Isoprene) to prohibiting the use, sale and import of substances such as Benzenamine, *N*-phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST), an additive used in vehicle engine oil.

Wastewater

- Published final regulations to reduce the release of harmful substances in effluent from wastewater systems, thereby addressing one of the largest sources of pollution in Canadian waters.
- Established a national electronic regulatory reporting system and advanced negotiations of bilateral agreements with provinces and Yukon.

Promoting compliance and enforcement—pollution and wildlife

- Completed over 16,000 inspections on regulations under 6 acts, including the *Canadian Environmental Protection Act, 1999*, the *Fisheries Act*, and the *Species at Risk Act*. Also completed almost 60,000 compliance promotion activities, including reaching 100% of those known to be subject to many risk management instruments under the CMP.
- Continued reporting on compliance promotion and enforcement activities in accordance with a number of acts.

A Safe Environment: Provide Canadians with relevant information on immediate and long-term environmental conditions.

Type: Ongoing (Restated)	**Links to Strategic Outcome 2:** *Canadians are equipped to make informed decisions on changing weather, water and climate conditions.*
Links to Programs: 2.1 Weather and Environmental Services for Canadians 2.2 Weather and Environmental Services for Targeted Users	

Progress Achieved:

Deliver first-rate weather and environmental services for Canadians and targeted users

- Successfully and appropriately provided Canadians with ongoing weather forecasts and warnings of severe weather events (such as Hurricane Sandy).
- Made innovative use of social media and other Internet-based applications (e.g. Google Alert[ii]) to provide Canadians with needed information—including severe weather alerts—in a timely manner.
- Continued to implement business transformation projects including the re-engineering of the weather warning and service delivery system, and the development and implementation of the next generation of weather prediction systems.
- Delivered critical weather services (24/7) to meet the needs of targeted users.
- Took action to maintain a knowledgeable, sustainable workforce and a healthy workplace, including actions to develop, recruit and retain the skills and expertise needed to deliver weather and environmental services.
- Provided science support to initiatives in Canada and internationally, including in support of climate change (e.g. Intergovernmental Panel on Climate Change, Arctic Council), and the establishment of the Global Framework for Climate Services within the World Meteorological Organization.

Important improvements to infrastructure

- Began implementing the $78.7 million federal government investment allocated in Budget 2011 to strengthen weather monitoring infrastructure, including upgrades to 22 surface weather stations, the Canadian Weather Radar Network, the Canadian Weather and Climate Observing Networks, and the Canadian Lightning Detection Network.
- Made progress on the Arctic METAREAs[1] project with the expansion of forecast coverage, the installation of surface weather stations in the Arctic and the deployment of buoys (in partnership with the Department of National Defence).
- Partnered with Shared Services Canada (SSC) to replace the Department's high-performance computer in Dorval, Quebec. The supercomputing capacity supports improved weather models for forecasts and early warnings to Canadians and targeted users, and facilitates the transfer of weather, climate and air quality research to operations.

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[1] Meteorological areas

A Sustainable Environment: Ensure that land, water and biodiversity are sustained.

Type: Ongoing (Restated)

Links to Strategic Outcome 1:
Canada's natural environment is conserved and restored for present and future generations.

Links to Programs:
1.1 Biodiversity–Wildlife and Habitat
1.2 Water Resources
1.3 Sustainable Ecosystems
1.4 Compliance Promotion and Enforcement–Wildlife (reported on under 3.3 Compliance Promotion and Enforcement–Pollution)

Progress Achieved:

Biodiversity

- Continued to implement the *Species at Risk Act*, including posting to the Species at Risk Public Registry a final recovery strategy for the Woodland Caribou, Boreal population (boreal caribou), and recovery documents for other species.
- Released a major scientific report on birds in Canada in partnership with a non-governmental organization, finalized and made public 8 bird conservation plans, drafted 14 management plans for National Wildlife Areas, and initiated a pilot project for grassland birds through a joint venture.
- Continued active participation in the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)—including on the issue of commercial trade in polar bear.
- Progressed with securing habitats important to species at risk. For example, as of 2012–2013, 173,668 hectares of habitat, equivalent to one third the size of Prince Edward Island, had been secured in Canada through the Habitat Stewardship Program for Species at Risk, benefiting up to 404 species assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada.
- Continued to develop the National Conservation Plan by engaging a range of stakeholders and drawing on the results of the House of Commons Standing Committee on Environment and Sustainable Development's recent conservation-related studies.
- Moved forward with research, modelling and other science that supports biodiversity goals and priorities.

Water

- Successfully negotiated amendments to the Canada–United States Great Lakes Water Quality Agreement—the first since the Agreement was last revised in 1987.
- Closely monitored water levels in the Great Lakes and the Arctic, and supported provinces and territories with data on water levels and flood forecasts.
- Delivered water quality and quantity monitoring and related science across Canada, including under the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring.
- Worked with other federal departments to increase water sampling in shellfish harvesting areas.
- Initiated development of a risk-based approach to water quality monitoring.
- Continued investment in new field technologies in all regions of Canada—with emphasis on new hydroacoustic equipment that supports real-time level and flow estimations in extreme events such as floods.

Sustainability

- Invested in ecosystems across the country (including the Great Lakes, St. Lawrence, Lake Winnipeg, Lake Simcoe and Atlantic), and continued to deliver on the Action Plan for Clean Water through delivery of sediment management projects.
- Continued to collaborate with the Government of Alberta and stakeholders to implement, over three years, an industry-funded integrated approach to monitoring, evaluating and reporting on the significance of environmental contaminant pathways in air and water, the biological effects of such contaminants, and the impacts of habitat disturbance as described in the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring.
- Tabled in Parliament the second Federal Sustainable Development Strategy (2010–2013) Progress Report and released the draft 2013–2016 Federal Sustainable Development Strategy for public consultation.
- Continued to develop and apply models for economic, social and ecological valuation of ecosystem services to support sustainable development decision making.
- Added 15 new indicators and updated 21 indicators of environmental sustainability, as part of the Canadian Environmental Sustainability Indicators initiative. Provided science-based information for reporting on water quality indicators using data from over 300 sites and maintained quality assurance and control.

Management Priority: Enabling Transition and Alignment – Activities and resources are aligned to best support delivery of programs and services in a period of fiscal restraint.

Type: Ongoing (Restated)	**Links to Strategic Outcomes 1, 2 and 3**
Links to All Programs	

Progress Achieved:

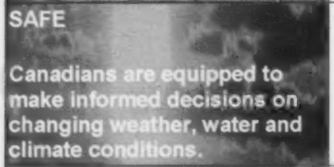
- Completed a pilot project for Environment Canada's contribution to the federal government's Open Data Portal[iii] (launched in June 2013).
- Worked with the Government of Alberta to finalize and launch the Canada–Alberta Oil Sands Environmental Monitoring Information Portal[iv] to provide the public with access to the extensive results of monitoring of air, water, land and biodiversity in the oil sands.
- Completed implementation of new service delivery models for human resources and financial services. Work involved several major initiatives to improve the efficiency, effectiveness and accountability for human resources and financial services functions within the Department.
- Implemented a new periodic process to monitor the progress of programs in response to the recommendations of past audit and evaluation reports in previous periods.
- Signed working arrangements with Shared Services Canada (SSC) to establish relationships and accountabilities between Environment Canada and SSC, and to ensure the ongoing support of the Department's mission-critical services, including laying the groundwork for the acquisition and set-up of a new supercomputer needed to support the Department's work.
- Advanced government policy priorities with Canadian and international partners, including in support of the Global Commerce Strategy, the work of the Arctic Council and bilateral relations with other countries.
- Implemented a new grants and contributions planning process to improve timeliness of funding decisions and better alignment of resources to priority initiatives and programs.
- Completed a revision of the Departmental Business Continuity Plan and further developed regional and site-level plans.
- Introduced performance measurement of security services and delivered security-related awareness briefings to 92% of departmental employees (including classroom and online activities).
- Improved communication strategies, products and innovative tools to support both internal and external communication requirements.

Environment Canada's Five Key Environmental Indicators

Environment Canada's programs are focused on delivering a **clean, safe and sustainable** environment for Canadians. Five key environmental indicators were developed to represent, at a high level, progress in these three areas.

The results of these indicators are not solely attributable to Environment Canada's actions, but are indicative of the results achieved collectively by various levels of government and partners, in accordance with their responsibilities for the environment.

Environment Canada develops and communicates these and other national environmental indicators through the Canadian Environmental Sustainability Indicators (CESI) initiative. Further details are available on the CESI website[v]. These indicators are also reported as part of Environment Canada's Performance Measurement Framework (PMF).

ENVIRONMENTAL INDICATORS		
STEWARDSHIP MANDATE	**KEY INDICATORS**	**RESULTS**
CLEAN **Threats to Canadians and their environment from pollution are minimized.**	**Air Quality** Ambient concentrations of fine particulate matter ($PM_{2.5}$)[2] *Target: Below the 24-hour Canadian Ambient Air Quality Standard of 28 μg/m³ for 2015*	The national annual peak (98th percentile) 24-hour concentration of $PM_{2.5}$ has been steady since 2000. In 2011, the value was 22.1 micrograms per cubic metre (μg/m³), which remains below the 24-hour Canadian Ambient Air Quality Standard of 28 μg/m³ for 2015.
	Climate Change GHG emissions *Copenhagen Target: 17% below 2005 level by 2020*	Canada's total greenhouse gas (GHG) emissions in 2011 were 702 megatonnes (Mt) of carbon dioxide equivalent (CO_2 eq), or 5% (35 Mt) below the 2005 emissions of 737 Mt.
 **SAFE** **Canadians are equipped to make informed decisions on changing weather, water and climate conditions.**	**Severe Weather Events** Weather Warning Index *Target: 7.6 by 2015*	The Weather Warning Index was 7.9 (using data from 2010 to 2012), an improvement on last year's score of 7.5 (using data from 2009 to 2011). The index is on a scale of 0 to 10, where 10 signifies that all warnings were within target lead times and that there were no missed events or false alarms.
SUSTAINABLE **Canada's natural environment is conserved and restored for present and future generations.**	**Biodiversity** Protected areas *Target: 17% of Canada's terrestrial area by 2020*[3]	In 2012, 10% (1,003,818 km²) of Canada's land and freshwater (terrestrial) area and approximately 0.7% (49,326 km²) of its marine territory have been recognized as protected; this is roughly the size of the province of British Columbia.
	Water Quality National Freshwater Quality Indicator *Target: 50% of core national monitoring sites rated as excellent or good by 2015*[4]	Overall, the National Freshwater Quality Indicator remained stable between 2003 and 2010. For the period 2008 to 2010, freshwater quality was rated as excellent or good at 44% of stations, fair at 39%, marginal at 16% and poor at 1%.

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[2] Revised to reflect the Canadian Ambient Air Quality Standards announced in October 2012 by the Canadian Council of Ministers of the Environment.

[3] The Parties to the Convention on Biological Diversity set an aspirational target in October 2010, which was to set aside 17% of land and inland water and at least 10% of coastal and marine areas, by 2020. Canada, as a signatory to the Convention, is contributing to this global target. A specific domestic target for Canada is being developed through consultation with provinces, territories and stakeholders, in recognition of this being a Canada-wide rather than federal government target.

[4] Based on the 2010–2012 data set.

Risk Analysis

This section describes the Department's corporate risks as identified in the 2012–2013 Report on Plans and Priorities (RPP), summarizes Environment Canada's response to these corporate risks, and provides the relevant links to the Departmental Program Alignment Architecture and organizational priorities. The mitigation measures that respond to these risks are aimed at minimizing the threats these risks may have posed to the Department's capacity to deliver on its mandate and to meet its operational and management priorities.

Risk	Risk Response Strategy	Link to Program Alignment Architecture	Link to Organizational Priorities
Transition: Risks related to fiscal restraint	▪ The Department made rapid progress in implementing new streamlining and efficiency measures and continues to align resources to priorities. The majority of measures to return to fiscal balance have been applied. As a result, the transition risk is no longer considered a key corporate risk.	▪ All Strategic Outcomes and Program 4.1 (Internal Services)	▪ All priorities as listed on pages 7 to 10
Engagement: Risks related to partnerships and key stakeholder engagement	▪ The Department is realizing benefits of using innovative solutions; consultations and meetings are taking place via technology (i.e. webinars). ▪ The sector approach to key regulatory initiatives enhances knowledge of sectors and working relationships with key domestic and international partners and stakeholders, such as new federal/provincial/territorial working groups being established to address adaptation and data/analysis aspects of climate change. ▪ Creation of Environment Canada–Shared Services Canada Liaison Office to ensure that the Department's interests are maintained.[5]	▪ All Strategic Outcomes and Program 4.1 (Internal Services)	▪ All priorities as listed on pages 7 to 10
Business Continuity: Risks related to continuity of critical services	▪ Critical services within the 0–4 hour maximum allowable downtime period have been identified throughout the Department. ▪ Business continuity plans have been established for critical and higher-risk departmental sites. ▪ The Department will continue to collaborate with other federal departments to develop federal emergency management plans.	▪ All Strategic Outcomes and Program 4.1 (Internal Services)	▪ All priorities as listed on pages 7 to 10

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[5] The Shared Services Canada (SSC) Liaison Office was created to ensure that the Department's interests are maintained. This is accomplished by

- facilitating communication between the Department and SSC;
- participating in the establishment and revision of information technology service-related processes and activities between the Department and SSC;
- engaging SSC in priority setting where pertinent to SSC–Environment Canada operations and services; and
- negotiating agreements and working relationships to ensure clear accountabilities.

Skills: Risks related to a sustainable and knowledgeable workforce	▪ Human resources plans are updated on a yearly basis and include succession planning, work-life balance and training. ▪ Innovative approaches are being taken across the Department to help retain, retrain and motivate staff. ▪ The Department is implementing its action plan to respond to the 2011 Public Service Employee Survey. ▪ There has been extensive Deputy Minister and senior management engagement in the development and implementation of people management strategies in the context of business transformation, renewal and workforce adjustment.	▪ All Strategic Outcomes and Program 4.1 (Internal Services)	▪ All priorities as listed on pages 7 to 10

Risk Narrative

Environment Canada's objectives and Strategic Outcomes, along with the risks the Department faces, are influenced by the environment in which it operates. For the risks included in the 2011–2013 Corporate Risk Profile and 2012–2013 RPP, key risk considerations external to the Department were as follows:

- increasing Canadian and international expectations concerning the management of the environment
- the continuously increasing pace of advances in science and technology
- a shift to centralized service delivery (e.g. SSC)

Risk management thus continues to be a key activity for the Department that supports and informs departmental priority setting, business and resource planning, and decision making.

Summary of Performance

Financial Resources ($ millions)*

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending 2012–2013	Difference Planned vs. Actual Spending
972.7	997.6	1,116.8	989.7	7.9

* Throughout this document, totals may differ within and between tables due to rounding of figures.

The Department's planned spending represents the amount approved by Parliament through the Main Estimates and adjusted by other anticipated adjustments for the remainder of the year. Throughout the year, new and renewed funding added $119.2 million to planned spending, increasing total authorities to $1,116.8 million. The main items contributing to the increase were additional fast start financing under the Copenhagen Accord ($21.1 million), a statutory payment to the Nature Conservancy of Canada ($24 million), the Species at Risk Program ($12.5 million) and funding provided via Treasury Board (TB) central votes (e.g. severance payments, maternity leave).

The actual spending of $989.7 million (89% of total authorities) was slightly lower than planned spending and reflects the departmental expenditures as reported in the Public Accounts.

Actual spending has decreased over the last few years due to the sunsetting of the National Vehicle Scrappage Program, the Economic Action Plan 2009, the transfer of responsibilities to Shared Services Canada and the implementation of new streamlining and efficiency measures. Planned spending decreases in future years are due to ongoing implementation of new efficiencies and the sunsetting or reductions in required funding for initiatives including the Nature Conservancy of Canada, the Clean Air Regulatory Agenda and fast start financing under the Copenhagen Accord. A planned statutory payment to Sustainable Development Technology Canada creates a one-time increase in planned spending in 2014–2015.

Human Resources (Full-Time Equivalent–FTE)*

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
6,237	6,284	(47)

* Throughout this document, totals may differ within and between tables due to rounding of figures. The actual FTE number includes students.

The human resources required to sustain an average level of employment for one full-time equivalent (FTE) over 12 months is based on a 37.5-hour work week. Environment Canada used 6,284 FTEs in 2012–2013, a slight increase of 47 FTEs (0.8%) over planned FTEs of 6,237. Planned FTEs and actual FTEs should be read in relation to planned spending and actual spending, respectively, in the above 2012–2013 Financial Resources table.

Performance Summary Tables **($ millions)**

Canada's natural environment is conserved and restored for present and future generations.

Program	Total Budgetary Expenditures (Main Estimates 2012–2013)	Planned Spending			Total Authorities (available for use) 2012–2013	Actual Spending* (authorities used)			Alignment with Government of Canada Outcomes
		2012–2013	2013–2014	2014–2015		2012–2013	2011–2012	2010–2011	
Biodiversity—Wildlife and Habitat	88.3	88.3	99.8	96.9	129.6	124.3	138.8	129.3	A Clean and Healthy Environment[vi]
Water Resources	95.9	95.9	96.8	98.7	109.5	108.6	107.6	118.0	
Sustainable Ecosystems	61.6	61.6	71.6	75.9	70.2	67.5	66.2	65.8	
Compliance Promotion and Enforcement—Wildlife	17.2	17.2	16.8	16.4	17.9	16.7	17.5	16.9	
Sub-total	**263.1**	**263.1**	**285.0**	**287.9**	**327.2**	**317.0**	**330.1**	**330.0**	

* Totals may differ within and between tables due to rounding of figures.

Actual spending in 2012–2013 was higher than planned spending for 2012–2013 mainly due to funding received for the Nature Conservancy of Canada, the renewal of the Species at Risk Program and the Great Lakes Nutrient Initiative. Actual spending decreased in 2012–2013 in comparison with 2011–2012 spending due to a reduced funding requirement for the Nature Conservancy of Canada.

Canadians are equipped to make informed decisions on changing weather, water and climate conditions.

Program	Total Budgetary Expenditures (Main Estimates 2012–2013)	Planned Spending			Total Authorities (available for use) 2012–2013	Actual Spending* (authorities used)			Alignment with Government of Canada Outcomes
		2012–2013	2013–2014	2014–2015		2012–2013	2011–2012	2010–2011	
Weather and Environmental Services for Canadians	191.3	191.3	153.5	159.1	177.2	167.7	172.4	186.8	A Clean and Healthy Environment[vii]
Weather and Environmental Services for Targeted Users	25.8	32.3	25.5	25.5	26.7	23.0	24.1	23.0	
Sub-total	**217.0**	**223.5**	**179.1**	**184.6**	**203.9**	**190.7**	**196.5**	**209.9**	

* Totals may differ within and between tables due to rounding of figures.

Actual spending in 2012–2013 was lower than planned spending for 2012–2013 mainly due to the realignment between Programs for the transfer of funds and responsibilities to Shared Services Canada. The transfer to Shared Services Canada has also resulted in declining actual spending from 2010–2011 to 2012–2013. The increase in planned spending for 2012–2013 was due to funding received for fast start financing under the Copenhagen Accord.

Threats to Canadians and their environment from pollution are minimized.

Program	Total Budgetary Expenditures (Main Estimates 2012–2013)	Planned Spending			Total Authorities (available for use) 2012–2013	Actual Spending* (authorities used)			Alignment with Government of Canada Outcomes
		2012–2013	2013–2014	2014–2015		2012–2013	2011–2012	2010–2011	
Substances and Waste Management	81.7	81.7	74.6	68.5	87.7	79.3	83.3	103.7	A Clean and Healthy Environment[viii]
Climate Change and Clean Air	193.2	211.5	179.5	229.9	240.2	157.5	118.3	160.8	
Compliance Promotion and Enforcement–Pollution	45.5	45.5	44.0	42.3	47.3	41.7	43.3	39.9	
Sub-total	**320.4**	**338.7**	**298.1**	**340.7**	**375.2**	**278.5**	**244.8**	**304.5**	

* Totals may differ within and between tables due to rounding of figures.

Actual spending in 2012–2013 was lower than planned spending for 2012–2013 mainly due to unspent funding for Sustainable Development Technology Canada. Planned spending is reduced in 2013–2014 as funding for Sustainable Development Technology Canada decreases. Further contributing to a decrease in planned spending in 2013–2014 is the sunsetting of funding for fast start financing under the Copenhagen Accord and decreases in year-over-year funding for the Clean Air Regulatory Agenda in 2013–2014 and 2014–2015. Planned spending increases in 2014–2015 are due to a planned statutory payment for Sustainable Development Technology Canada. Actual spending was mainly higher in 2010–2011 due to the National Vehicle Scrappage Program and increased in 2012–2013 due to fast start financing under the Copenhagen Accord.

Internal Services

Internal Services	Total Budgetary Expenditures (Main Estimates 2012–2013)	Planned Spending			Total Authorities (available for use) 2012–2013	Actual Spending* (authorities used)		
		2012–2013	2013–2014	2014–2015		2012–2013	2011–2012	2010–2011
	172.2	172.2	189.4	177.9	210.5	203.4	237.1	242.7
Sub-total	**172.2**	**172.2**	**189.4**	**177.9**	**210.5**	**203.4**	**237.1**	**242.7**

* Totals may differ within and between tables due to rounding of figures.

Actual spending for 2012–2013 is higher than planned spending for 2012–2013 due to internal realignments of funding to account for the transfer of responsibilities to Shared Services Canada. Actual spending decreased in 2012–2013 compared to 2011–2012 due to reduced expenditures financed through Treasury Board central votes as well as to the transfer of responsibilities to Shared Services Canada.

Total Performance Summary Table ($ millions)

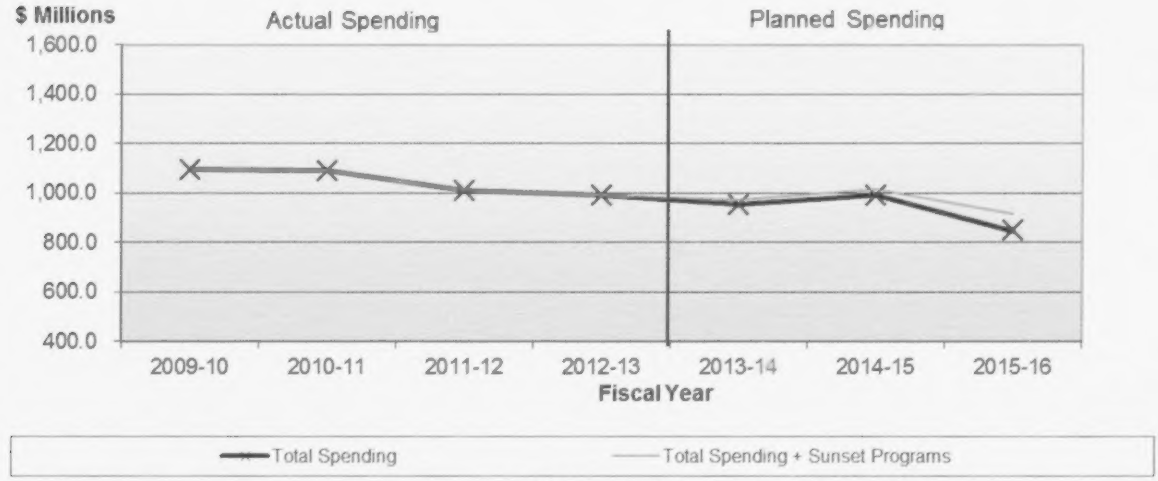
Strategic Outcomes and Internal Services	Total Budgetary Expenditures (Main Estimates 2012–2013)	Planned Spending			Total Authorities (available for use) 2012–2013	Actual Spending* (authorities used)		
		2012–2013	2013–2014	2014–2015		2012–2013	2011–2012	2010–2011*
Total	**972.7**	**997.6**	**951.6**	**991.1**	**1,116.8**	**989.7**	**1,008.5**	**1,088.9**

* 2010–2011 total actual spending included $1.8 million from the Mackenzie Gas Project.

Expenditure Profile

The following chart depicts the Department's spending trend over a seven-year period. For the period from 2009–2010 to 2012–2013, actual spending represents the actual expenditures as reported in the Public Accounts. For the period 2013–2014 to 2015–2016, the planned spending reflects approved funding by Treasury Board to support the departmental Strategic Outcomes and the implementation of new streamlining and efficiency measures.

Spending Trend



Note: Planned spending values in Spending Trend are as reflected in the 2013–2014 Report on Plans and Priorities.

As indicated in the chart above, Environment Canada's actual spending as per the Public Accounts for 2012–2013 was $989.7 million, a year-over-year decrease of $18.8 million (1.9%) from 2011–2012 spending. This decrease is mainly due to reductions attributable to implementing new streamlining and efficiency measures, a smaller payment to the Nature Conservancy of Canada, and the transfer for a full year of funding and responsibilities to Shared Services Canada. These reductions were offset by increased spending to support fast start financing under the Copenhagen Accord.

The decrease in actual spending between 2009–2010 and 2010–2011 is primarily attributed to a reduced payment to the Nature Conservancy of Canada. For the most part, other variations in spending—both increases and decreases—offset each other.

The decrease in actual spending between 2010–2011 and 2011–2012 is mainly due to the transfer of responsibilities to Shared Services Canada as of November 15, 2011, and the sunsetting of funding provided for the National Vehicle Scrappage Program and the Economic Action Plan 2009.

The decrease in planned spending from 2013–2014 to 2015–2016 is the result of implementing new streamlining and efficiency measures as well as sunsetting or reductions in funding for a number of initiatives, including for Sustainable Development Technology Canada, the Nature Conservancy of Canada, the Clean Air Regulatory Agenda, the Species at Risk Program and the implementation of Canada's fast start financing under the Copenhagen Accord. Sunsetting programs are subject to government decisions to extend or enhance funding. The outcomes of these decisions will therefore be reflected in both the Department's future budget exercises and Estimates documents.

Estimates by Vote

For information on Environment Canada's organizational Votes and/or statutory expenditures, please see the *Public Accounts of Canada 2013 (Volume II)*[ix]. An electronic version of the Public Accounts 2013 is available on the Public Works and Government Services Canada website.

Contribution to the Federal Sustainable Development Strategy

The Federal Sustainable Development Strategy (FSDS) outlines the Government of Canada's commitment to improving the transparency of environmental decision making by articulating its key strategic environmental goals and targets. Environment Canada ensures that consideration of these outcomes is an integral part of its decision-making processes. The Department contributes to the following FSDS 2010–2013 themes (each denoted by a visual identifier) in all three Strategic Outcomes below.

Strategic Outcome 1: Canada's natural environment is conserved and restored for present and future generations.

w **Theme II** Maintaining Water Quality and Availability

n **Theme III** Protecting Nature

Strategic Outcome 2: Canadians are equipped to make informed decisions on changing weather, water and climate conditions.

a **Theme I** Addressing Climate Change and Air Quality

Strategic Outcome 3: Threats to Canadians and their environment from pollution are minimized.

a **Theme I** Addressing Climate Change and Air Quality

w **Theme II** Maintaining Water Quality and Availability

n **Theme III** Protecting Nature

During 2012–2013, Environment Canada considered the environmental effects of initiatives subject to the *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals.*[x] Through the strategic environmental assessment process, departmental initiatives were found to have environmental effects on the 2010–2013 FSDS goals and targets in Theme 1–Addressing Climate Change and Air Quality and Theme 2–Maintaining Water Quality and Availability.

For additional details on Environment Canada's activities to support sustainable development and strategic environmental assessments, please see Section II of this Departmental Performance Report and the departmental website.[xi] For complete information on the FSDS, please visit the Environment Canada website.[xii]

SECTION II: ANALYSIS OF PROGRAMS BY STRATEGIC OUTCOME

The following section expands upon the strategic discussion, centering on the Department's priorities, and provides a more detailed review of the performance achieved during 2012–2013 in response to commitments at the Program and Sub-Program level.

Strategic Outcome 1:
Canada's natural environment is conserved and restored for present and future generations.

Performance Indicators	Targets	Actual Results
Percentage of terrestrial land protected[6] as a measure of conservation effort	17% by 2020	In 2012–2013, 10% (1,003 818 km^2) of Canada's land and freshwater (terrestrial) area and approximately 0.7% (49 326 km^2) of its marine territory have been recognized as protected; this is roughly the size of the province of British Columbia.

Programs for Strategic Outcome 1

1.1 Biodiversity–Wildlife and Habitat
1.2 Water Resources
1.3 Sustainable Ecosystems
1.4 Compliance Promotion and Enforcement–Wildlife*

* Please note that Program 1.4: Compliance Promotion and Enforcement–Wildlife is described on page 80.

Program 1.1: Biodiversity–Wildlife and Habitat

Sub-Programs for Program 1.1 Biodiversity–Wildlife and Habitat

1.1.1 Biodiversity Policy and Priorities
1.1.2 Species at Risk
1.1.3 Migratory Birds
1.1.4 Wildlife Habitat Conservation

Program Description

This program aims to prevent biodiversity loss while still enabling sustainable use by protecting and recovering species at risk; conserving, restoring and rehabilitating significant habitats; and conserving and managing migratory birds. It also aims to ensure a coordinated and coherent national assessment, planning and action to protect biodiversity, including viable populations of species, healthy and diverse ecosystems, and genetic resources. The Program includes the formation of strategic partnerships for integrated management of Canada's natural capital including stewardship and the sustainable management of landscapes. Legal and statutory responsibilities for this program include the *Species at Risk Act*; the *Migratory Birds Convention Act, 1994*; the *Canada Wildlife Act*; and the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act*. International responsibilities include the United Nations Convention on Biological Diversity (1992), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the Convention on Wetlands of International Importance, especially as Waterfowl Habitat (known as the Ramsar Convention)[7]. Contributions in support of Biodiversity–Wildlife and Habitat are used as a component of this program.

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[6] A "protected" area is a clearly defined geographical space that is recognized, dedicated and managed—through legal or other effective means—to achieve the long-term conservation of nature with associated ecosystem services and cultural values.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
88.3	88.3	129.6	124.3	(35.9)

Note: The increase from planned spending to actual spending and in FTEs is mainly due to increased funding for the Species at Risk Program and a payment to the Nature Conservancy of Canada.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
451	531	(80)

Program 1.1: Biodiversity–Wildlife and Habitat			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Populations of wildlife, in particular migratory birds and federally listed species at risk, are maintained or restored.	Proportion of assessed migratory bird species in General Status Reports whose status is considered to be secure	2% increase over previous reported value in each 5-year General Status Report	2000: 80% 2005: 81% 2010: 77% This indicator has been revised since previous reporting to include only species that are protected under the *Migratory Birds Convention Act, 1994*. The number of species ranked as "At Risk" is showing a steady increase and has almost doubled since the first report in 2000. Between reporting years, some species had an increased level of risk, a reduced level of risk, or might have been added or deleted from the species list. There are many possible explanations for these variations, including biological changes in the population size; distribution of or threats to the species; a more detailed assessment prepared by the Committee on the Status of Endangered Wildlife in Canada; an error in previous rankings; improved knowledge of the species; a procedural change; or a taxonomic change.

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[7] International responsibilities now also include the Arctic Council working group on the Conservation of Arctic Flora and Fauna (CAFF).

Performance Analysis and Lessons Learned

Highlights of Environment Canada's accomplishments and activities within this program include the following:

- Continued to implement the *Species at Risk Act*, including posting 41 recovery strategies as proposed or final on the Species at Risk Public registry in 2012–2013. The final recovery strategy for the Woodland Caribou, Boreal population was posted.
- Progressed with developing and applying models for economic, social and ecological valuation of ecosystem services to support sustainable development decision making.
- Partnered with a number of other federal departments and agencies to address conservation issues in support of marine birds, and with a non-governmental organization to release a major scientific report on birds.
- Continued active participation in the Convention on International Trade in Endangered Species of Wild Fauna and Flora—including on the issue of commercial trade in polar bear.
- Progressed with securing habitats that are important for species at risk and worked to ensure that data from avian monitoring programs are readily available to support decision making. For example, as of 2012–2013, 173,668 hectares (or 1736.68 km^2) of habitat, equivalent to one third the size of Prince Edward Island, had been secured in Canada through the Habitat Stewardship Program for Species at Risk, benefiting up to 404 species assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada.
- Finalized and made public 8 bird conservation plans, drafted 14 management plans for National Wildlife Areas, and initiated a pilot project for grassland birds through a joint venture.
- Initiated work on a strategic approach for habitat conservation through landscape assessment and planning and worked with other federal departments and agencies on invasive alien species.

Sub-Program 1.1.1: Biodiversity Policy and Priorities

Sub-Program Description

This program enables Environment Canada to play a coordinating role at the national level in engaging stakeholders and other government departments in Canada's implementation of the United Nations Convention on Biological Diversity, and to represent Canada's domestic interests in international fora. This program uses a mix of science, policy tools, research, and partnerships with non-governmental organizations, Aboriginal organizations, business, and academia to develop and implement national policy frameworks and strategies (e.g., Canadian Biodiversity Strategy, Biodiversity Outcomes Framework, Access and Benefit Sharing of Genetic Resources), and to advance Canada's biodiversity objectives internationally (e.g., Convention on Biological Diversity; Intergovernmental Platform on Biodiversity and Ecosystem Services; an international regime on Access and Benefit-Sharing, Liability and Redress under Biosafety Protocol; Conservation of Arctic Flora and Fauna under the Arctic Council). Program funding includes Canada's annual contribution to the Secretariat of the Convention on Biological Diversity and support for international working groups. Program delivery may include Contributions in support of Biodiversity–Wildlife and Habitat.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
2.1	2.0	0.1

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
11	10	1

Sub-Program 1.1.1: Biodiversity Policy and Priorities			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Biodiversity goals and targets are integrated into federal, provincial and territorial strategies and plans that have an impact on biodiversity.	Percentage of federal departments with natural resource or environmental mandates, provinces and territories that have identified or are implementing measures to enhance biodiversity	100% by 2014	This indicator will be assessed in 2014 as part of the process of developing Canada's 5th National Report to the Convention on Biological Diversity (CBD).
Multilateral biodiversity agreements and work plans reflect Canadian priorities and interests.	Percentage of decisions under the Convention on Biological Diversity that are consistent with Canadian objectives	100%	97% in 2012 The CBD Conference of the Parties (COP-12) made a total of 33 decisions; 32, or 97%, of these decisions were consistent with Canadian objectives. One of these decisions on resource mobilization was contrary to Canada's position, which was to develop quantitative targets on resource mobilization only after Parties had supplied robust baseline information.

Performance Analysis and Lessons Learned

In this sub-program:

- Progressed with developing and applying models for economic, social and ecological valuation of ecosystem services to support sustainable development decision making. The Department's integrated model was peer-reviewed at an international conference and, in collaboration with Statistics Canada, the Department undertook a project on metrics and measures of ecosystem services for national accounting.
- Steered a working group that includes other federal departments (Canadian Food Inspection Agency, Fisheries and Oceans Canada, and Natural Resources Canada) in support of management of invasive alien species.
- Employed an extensive inter-departmental process for the CBD to ensure that negotiating positions were consistent with government policy and that negotiators were well-versed in scientific, policy and cross-cutting issues.
- Completed and published 48% (21 of 44) of the technical reports for the Ecosystem Status and Trends Report.
- Successfully influenced Canada's priority projects to include biodiversity, in preparation for Canada's 2013–2015 chairmanship of the Arctic Council.
- Collaborated with provinces and territories to develop proposed 2020 biodiversity goals and targets for Canada, with input from Aboriginal organizations and stakeholders.

- Expanded biodiversity monitoring in the oil sands, with a focus on assessing terrestrial and aquatic biodiversity and the impacts of contaminants and habitat disturbance. Work included collection (by the Alberta Biodiversity Monitoring Institute) of biodiversity information from 64 wetland and 64 terrestrial monitoring sites across 38 habitat classes throughout the oil sands region, as well as data on more than 1,000 species of mammals, migratory birds, vascular plants, moss, lichen and soil invertebrates. Other monitoring included cause-effect monitoring, including predicting the impact of industrial development and climate change on birds in the oil sands area, as well as the collection and analysis of data on bird health (see sidebar: Science at Work).

Science at Work—Monitoring Biodiversity in the Oil Sands

An important aspect of the monitoring of air, water, land and biodiversity undertaken by the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring is monitoring birds and amphibians and undertaking toxicology and contaminant studies on wild bird and animal populations. For example, eggs of waterbirds that live in colonies (e.g., gulls, herons and egrets) were collected from western Lake Athabasca and from a reference site (Wood Buffalo National Park) for laboratory analysis. For ongoing information on the monitoring activities and results, visit the new Canada–Alberta Oil Sands Environmental Monitoring Information Portal[xiii] launched in 2013.

Sub-Program 1.1.2: Species at Risk

Sub-Program Description

The purpose of this program is to ensure implementation of the *Species at Risk Act* (SARA), with an objective of preventing wildlife species from becoming extinct and to securing the necessary actions for their recovery. It provides for the legal protection of wildlife species at risk and the conservation of their biological diversity. This is achieved in part through funding programs such as Habitat Stewardship Program (HSP), Aboriginal Funds (AFSAR), Endangered Species Recovery Fund and Interdepartmental Recovery Fund. The Program relies on partnerships with provincial, territorial and other governments, as well as Aboriginal people and other organizations (e.g., environmental non-governmental organizations, industry associations). A number of advisory bodies and committees have been established to enable key partners to be engaged in this program. This program is a result of the implementation of the Canadian Biodiversity Strategy, which is in response to the United Nations Convention on Biological Diversity. Authority for the Program is based on the SARA and Canada's obligations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora and the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act*.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
34.2	45.2	(11.0)

Note: The increase from planned spending to actual spending and in FTEs is mainly due to increased funding for the Species at Risk Program.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
163	213	(50)

Sub-Program 1.1.2: Species at Risk			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Critical habitat is protected.	Percentage of threatened and endangered species at risk for which Environment Canada (EC) is responsible whose critical habitat occurs wholly or in part within EC protected areas with that critical habitat described in the *Canada Gazette*.	To be determined	Of the 12 species that have had critical habitat identified in EC's protected areas, 6 have had that critical habitat described in the *Canada Gazette* (50%).
Goal 5: Wildlife Conservation–Maintain or restore populations of wildlife to healthy levels.	Percentage of listed species for which recovery has been deemed feasible where the population trend (where available) at the time of reassessment is consistent with the recovery strategy.	Federal Sustainable Development Strategy target 5.1: Terrestrial and Aquatic Wildlife Conservation–Aquatic Wildlife Conservation–Population trend (when available) at the time of reassessment is consistent with the recovery strategy for 100% of listed species at risk (for which recovery has been deemed feasible) by 2020	Of the 22 species whose recovery is deemed feasible that have been reassessed since the release of the final recovery strategy, 32% (7) have population trends that are moving towards achieving the goals laid out in the recovery strategies, while 9% (2) showed mixed evidence. The population trends for 32% (7) were not yet moving towards achieving the goals. There was insufficient evidence to determine population trends during reassessment for 27% (6).

Performance Analysis and Lessons Learned

The following summarizes 2012–2013 performance within this sub-program:

- Continued to implement the *Species at Risk Act* (SARA), including posting 41 recovery strategies as proposed or final on the Species at Risk Public Registry in 2012–2013. In particular the final recovery strategy for the Woodland Caribou, Boreal population was posted, with a goal of achieving self-sustaining populations in all boreal caribou ranges in Canada to the extent possible.
- Actively participated in the 16th Conference of the Parties to CITES, including by promoting the successful Canadian management of polar bear, thus enabling continued commercial trade in this species. The threat from trade is minimal because the species is well managed. The continuing trade in polar bear is an important component of the local economy of northern Aboriginal communities.
- Progressed with securing habitats that are important for species at risk through the Habitat Stewardship Program. As of 2012–2013, 173,668 hectares (ha) of habitat had been secured in Canada through the Habitat Stewardship Program for Species at Risk, benefiting up to 404 species assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada.
- Maintained and managed National Wildlife Areas and Migratory Bird Sanctuaries encompassing a total of 12,448,961 hectares.

Did you know?

In 2012–2013, Environment Canada maintained and managed National Wildlife Areas and Migratory Bird Sanctuaries encompassing a total of 12,448,961 hectares, more than twice the size of the Province of Nova Scotia.

Sub-Program 1.1.3: Migratory Birds

Sub-Program Description

This program protects and conserves populations of migratory bird species. It is responsible for implementing the Migratory Birds Convention signed with the United States in 1916, via the *Migratory Birds Convention Act, 1994*. Successful implementation includes the following activities: conserving populations, individual birds and their nests through continued conservation actions, stewardship, policy development and enforcement of the Act and its regulations; protecting important bird habitats; minimizing other stressors that affect population status; and managing emergencies regarding health and safety issues associated with migratory birds. This program is delivered in partnership with other governments and non-governmental organizations. Client groups for the Program include the Canadian public; game bird hunters; Aboriginal people (subsistence harvesting); natural resource economic sectors and natural resource users; and other governments (provincial/territorial and foreign). Program delivery may include Contributions in support of Biodiversity–Wildlife and Habitat.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
28.9	29.6	(0.6)

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
165	183	(18)

Sub-Program 1.1.3: Migratory Birds			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Migratory bird populations maintained at population goals Goal 5: Wildlife Conservation–Maintain or restore populations of wildlife to healthy levels.	Proportion of migratory bird species whose population varies within acceptable bounds of the population goals. (Note: Population trends of migratory birds are being reported in 2012–2013.)	Performance Measurement Framework target to be determined Federal Sustainable Development Strategy target 5.2: Terrestrial and Aquatic Wildlife Conservation–Target for proportion of migratory bird species whose population varies within acceptable bounds of the population goals will be established in 2011 once the Bird Status Database is complete[8]	On average, Canadian breeding bird populations declined by 12% between 1970 and 2010. Bird species spending the entire year in Canada increased in population on average by 68% between 1970 and 2010. Bird species migrating farther from Canada generally declined more, and those migrating the farthest (i.e., to South America) showed the most severe declines, with populations declining by 53%. Birds migrating to the United States had 10% declines on average, while those migrating to Central America had average declines of 14%.

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[8] Population goals for migratory bird species are still under development.

Performance Analysis and Lessons Learned

The following summarizes performance in 2012–2013 within this sub-program:

- Finalized and released, in collaboration with the North American Bird Conservation Initiative in Canada, The State of Canada's Birds[xiv], a science report that draws on 40 years of data and summarizes the status of bird populations for eight regions in Canada.
- Established a committee that ensures avian monitoring programs are reviewed regularly and that results and analysis are made available to decision makers in a timely manner.
- Initiated a pilot project for grassland birds, part of a broader program of joint ventures to implement conservation for all bird species.
- Finalized 8 of 25 bird conservation plans, with the remainder expected to be finalized in 2013–2014 and posted on the Department's website.

Did you know?

Birds are an indicator of ecosystem health—changes in bird populations indicate changes in the ecosystems humans depend on for food, clean air and water.

While Canadian bird populations have experienced an overall decline of 12% since the 1970s, some species have increased due to conservation efforts. For example, raptor populations (including Peregrine Falcon, Osprey and Bald Eagle) have increased since the 1970s.

Sub-Program 1.1.4: Wildlife Habitat Conservation

Sub-Program Description

This program secures, conserves and protects habitats that support species at risk and migratory birds by establishing Protected Areas and fostering and enabling habitat stewardship by landowners and managers. Some of this is done by acquiring and/or managing land through Environment Canada legislation. Much more is done by working with partners to protect and conserve wildlife habitat. Environment Canada administers several programs that foster and encourage actions by non-governmental organizations and Canadians to conserve and protect wildlife habitat and habitat for species at risk. Enabling acts include the *Migratory Birds Convention Act, 1994*; the *Canada Wildlife Act*; the *Species at Risk Act*; and the Convention on Wetlands of International Importance (known as the Ramsar Convention). Program delivery may include Contributions in support of Biodiversity–Wildlife and Habitat.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
23.1	47.5	(24.4)

Note: The increase from planned spending to actual spending is mainly due to funding received for the Nature Conservancy of Canada.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
113	126	(13)

Sub-Program 1.1.4: Wildlife Habitat Conservation

Expected Results	Performance Indicators	Targets	Actual Results
Habitats that are needed to achieve waterfowl population goals are secured.	Land secured by Environment Canada and partners as a percentage of the total amount needed to achieve population goals for all priority migratory birds	70% by 2012	98% as of December 2012 for waterfowl Includes lands secured through the Eastern Habitat Joint Venture, Prairie Habitat Joint Venture (excluding the Western Boreal Forest) and the Pacific Coast (Canadian portion) Joint Venture under the North American Waterfowl Management Plan (NAWMP). The existing habitat conservation goal and targets were set in the 2004 update of the NAWMP and cover the habitat goal for these three joint ventures from 1986 to 2009. New targets, expected to be finalized in 2014, are being developed by habitat joint ventures with the aim of achieving the goals of the 2012 NAWMP revision.
Goal 6: Ecosystem/Habitat Conservation and Protection–Maintain productive and resilient ecosystems with the capacity to recover and adapt; and protect areas in ways that leave them unimpaired for present and future generations.	Land conserved as a percentage of the total amount needed to achieve population goals for all priority migratory birds and species at risk.	Federal Sustainable Development Strategy (FSDS) target 6.1: Terrestrial Ecosystems and Habitat; non-park protected habitat-Habitat target to support conservation of priority migratory birds and species at risk will be set by 2015	As of December 2012, approximately 8 million hectares of habitat for waterfowl, an area 2.5 times the size of Vancouver Island, had been secured in Canada through the NAWMP. By the end of 2012–2013, an additional 173,668 hectares of habitat, equivalent to one third the size of Prince Edward Island, had been secured in Canada through the Habitat Stewardship Program for Species at Risk, benefiting up to 404 species assessed as at risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
	To be determined	FSDS target 6.4: Managing Threats to Ecosystems–Threats of new alien invasive species entering Canada are understood and reduced by 2015	Options for an indicator are being assessed and will be reported at a later date.

Performance Analysis and Lessons Learned

Highlights of performance in 2012–2013 within this sub-program include the following:

- Established co-management committees in 2012–2013 for three new National Wildlife Areas established in Nunavut in 2010, and identified key habitat sites and their protection requirements. Progressed with establishing new National Wildlife Areas in the Northwest Territories (including launching consultations for the first candidate, Edéhzhíe).
- Developed a strategic approach to landscape assessment and planning in support of protecting important wildlife habitats. Work included developing strategic options and recommendations, and strategic and implementation plans. The Department also identified key habitat sites in Nunavut and conducted a gaps analysis to identify missing data and maps, threats and opportunities, and current conservation measures. A critical habitat identification toolbox was also developed, as well as a wetlands geodatabase and data model to support landscape assessment planning activities.
- Began implementing, in collaboration with Aboriginal Affairs and Northern Development Canada and the Government of the Northwest Territories, the recommendations of local working groups on boundaries for National Wildlife Areas in the Northwest Territories.
- Updated the database for the Conservation Areas Reporting and Tracking System to incorporate new information and comply with international standards.
- Drafted 14 management plans for established National Wildlife Areas and initiated management planning for Migratory Bird Sanctuaries.
- Established an Environment Canada–Fisheries and Oceans Canada working group to address conservation issues with respect to marine birds.

Program 1.2: Water Resources

Sub-Programs for Program 1.2: Water Resources

1.2.1 Water Quality and Aquatic Ecosystems Health

1.2.2 Water Resource Management and Use

1.2.3 Hydrological Service and Water Survey

Program Description

This program addresses the implications to water resources from economic growth, climate change and other factors, ensuring threats to Canada's water resources and aquatic ecosystems are minimized, and the sustainability of the resource is maintained. Conservation, protection and sustainable use of water resources are critical aspects of Canada's economic, social and ecological well-being. The Program is delivered in collaboration with partners that include other federal departments, provinces and territories, and a range of non-governmental organizations. The Program encompasses Environment Canada's contribution to addressing water issues and its role in collaborating with other departments to determine priorities for water quality, quantity, and aquatic ecosystem monitoring and research, by providing scientific information and advice to decision makers, and by building best management practices. The Program supports the implementation of the *Canada Water Act*, the 1987 Federal Water Policy, the *Canadian Environmental Protection Act, 1999*, the *Fisheries Act* and the *International Boundary Waters Treaty Act*. Contributions in support of Water Resources are used as a component of this program.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used 2012–2013)	Difference 2012–2013
95.9	95.9	109.5	108.6	(12.6)

Note: The increase from planned spending to actual spending is mainly due to funding received through Treasury Board central votes.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
736	783	(47)

Program 1.2: Water Resources			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Threats to Canada's water resources and aquatic ecosystems are minimized, and the sustainability of the resource is maintained.	Percentage of core national monitoring sites included in the Canadian Environmental Sustainability Indicators Freshwater Quality Indicator whose water quality is rated as good or excellent	50% of core national monitoring sites in the 2010–2012 data set rated as good or excellent*	44% in the 2008–2010 data set Overall, the national Freshwater Quality Indicator remained stable between 2003 and 2010. For 2008 to 2010, freshwater quality was rated as excellent or good at 44% of stations, fair at 39%, marginal at 16% and poor at 1%.

*Based on the Canadian Council of Ministers of the Environment water quality ratings.

Performance Analysis and Lessons Learned

In 2012–2013, the Department delivered on its commitments under the Water Resources Program, including the following highlighted activities:

- Delivered water quality and quantity monitoring and related science across Canada, including under the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring, where monitoring was increased and results were made publicly available through a new information portal[xv].
- Clarified governance in the oil sands region, which has resulted in more effective environmental monitoring by governments and monitoring organizations. Meaningful engagement and involvement of local Aboriginal people and stakeholders is an ongoing priority in order to strengthen the overall monitoring approach.
- Increased water sampling in shellfish harvesting areas and achieved targets for sampling in five provinces.
- Delivered on commitments to provide science-based information for reporting against the Canadian Environmental Sustainability Indicators, using data from over 300 sites to maintain guidance and quality assurance and control procedures in support of water quality.
- Contributed to water management through close monitoring and sharing results on water levels in the Great Lakes and the Arctic, and to support provinces and territories with data on water levels and flood forecasts in order to mitigate the impacts of changing water levels.
- Continued to provide water monitoring and response, particularly in support of flood-affected areas, through ongoing use of water level data and flow measurement.

Sub-Program 1.2.1: Water Quality and Aquatic Ecosystems Health

Sub-Program Description

This program provides Canadians, policy- and decision makers, water resource managers, sectors, federal/provincial/territorial governments, industry, and municipalities with knowledge and understanding of human activities' impacts on, and risks posed to, water quality and the health of aquatic ecosystems. It supports the water quality-related obligations under the *Canadian Environmental Protection Act, 1999*, the *Canada Water Act*, the *Fisheries Act*, the *International Boundary Waters Treaty Act*, and federal/provincial/territorial and Canada–United States water quality agreements. Through this program, Environment Canada leads in the provision of water quality monitoring and reporting through annual reports on the Freshwater Quality Index and the status and trends reports on aquatic ecosystem health. The Program produces and disseminates scientific knowledge and information that identifies human activities that are having significant impacts on ecosystems (aquatic and others), vulnerable and priority areas, and opportunities to minimize these impacts. The Program includes Environment Canada responsibilities under the Science and Governance components of the Lake Winnipeg Basin Initiative (Action Plan for Clean Water) as well as responsibilities to monitor Canadian shellfish areas in accordance with the monitoring protocol under the Canadian Shellfish Sanitation Program, which is administered jointly through a Memorandum of Understanding between the Canadian Food Inspection Agency, Environment Canada, and Fisheries and Oceans Canada. Program delivery may include Contributions in support of Water Resources.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
68.3	84.8	(16.5)

Note: The increase from planned spending to actual spending is mainly due to funding received through Treasury Board central votes.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
467	520	(53)

Sub-Program 1.2.1: Water Quality and Aquatic Ecosystems Health

Expected Results	Performance Indicators	Targets	Actual Results
Impacts of human activities on water quality and aquatic ecosystems are understood and addressed by relevant jurisdictions.	Percentage of water quality issues identified in the *Threats to Sources of Drinking Water and Aquatic Ecosystem Health in Canada* report that are being addressed by federal, provincial and/or territorial policies, programs or management plans in key Canadian watersheds	To be determined	Fourteen of the 15 threats identified in *Threats to Sources of Drinking Water and Aquatic Ecosystem Health in Canada* are currently being addressed and have informed the development of at least 12 separate Government of Canada priority initiatives, such as the Great Lakes Action Plan, the Great Lakes Nutrient Initiative, and initiatives on northern contaminants and Lake Winnipeg. The program also addresses 8 of the 15 threats through services to other parts of the Department and external clients.
Goal 3: Water Quality–Protect and enhance the quality of water so that it is clean, safe and secure for all Canadians and supports	Annual changes in recommended classifications of shellfish-growing areas based on historical water	Federal Sustainable Development Strategy target 3.8: Marine Water Quality–Reduce the risks to Canadians	In 2010, 73% of Canada's shellfish growing areas were classified as approved or conditionally approved for shellfish harvesting for human consumption. From 2006 to 2010, the

healthy ecosystems.	quality measures[9]	and impacts on the marine environment posed by pollution from land-based activities	percentage of approved and conditionally approved growing areas did not change significantly.

Performance Analysis and Lessons Learned

Environment Canada's performance in 2012–2013 in this sub-program includes the following highlights:

- Under the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring, collaborated with the Alberta government to launch a Web portal on oil sands monitoring in support of a commitment to ensure that scientific data from monitoring activities are transparent and accessible (see sidebar: Science at Work).
- Provided science and monitoring support to Government of Canada commitments, including research related to reducing nutrient loading on Lake Winnipeg and cleaning up the Lake Simcoe and St. Lawrence River ecosystems. In collaboration with other departments, Environment Canada monitored water quality on federal lands (see also Program 1.3, page 37).
- Continued water quality monitoring and science activities and developed a risk-based assessment tool to better guide program delivery. The Department also applied risk-based assessment approaches to evaluate water quality monitoring activities that support the Prairie Provinces Water Board.
- Continued to monitor shellfish harvesting areas for fecal contamination and pollution sources, in support of the Canadian Shellfish Sanitation program. The Department increased water quality sampling frequency to match the standard of the United States Food and Drug Administration in all Canadian shellfish growing areas.
- Continued to provide nationally consistent science-based information for the annual reporting of the Canadian Environmental Sustainability Indicators Water Quality Indicator status and trends using freshwater monitoring data from 312 sites from across Canada, including Quebec data (the Canada–Quebec Water Quality Agreement was signed during 2012–2013).

Science at Work—Monitoring Water in the Oil Sands

Monitoring water in the Athabasca River and its tributaries to quantify and assess oil sands contaminants under the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring is vital to protecting aquatic ecosystems. In 2012–2013, monitoring included both mainstream and tributary water quality through regular and frequent sampling and analysis. For example, 14 monthly sampling locations were maintained on 6 major tributaries of the Athabasca. A wide range of other monitoring activities took place, including monitoring of snow, sediment and wild fish populations. Monitoring and other information is available to the public under the information portal[xvi].

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[9] Applies to oceans.

Sub-Program 1.2.2: Water Resources Management and Use

Sub-Program Description

The Water Resource Management and Use Program aims to ensure the conservation and sustainable use of Canada's water resources. The Program promotes efficient management and use of water resources under the *Canada Water Act* and the 1987 Federal Water Policy. The Program develops and promotes cooperative and integrated sustainable water management concepts, principles, best management practices, guidelines, policies and approaches with sectors, federal/provincial/territorial governments, water resource managers, industry, municipalities, and Canadians. This program also provides the federal leadership for facilitating water governance through transboundary and inter-jurisdictional water management boards. Program delivery may include Contributions in support of Water Resources.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
3.8	4.6	(0.8)

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
37	33	4

Sub-Program 1.2.2: Water Resources Management and Use			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Canadians manage and use water resources in a manner consistent with the sustainability of the resource. Goal 4: Water Availability–Enhance information to ensure that Canadians can manage and use water resources in a manner consistent with the sustainability of the resource.	Water use by major sectors, from water use surveys[10]	Performance Measurement Framework target: Less than or equal to 45 billion m^3 by 2012 Federal Sustainable Development Strategy target 4.1: Water Resource Management and Use–Promote the conservation and wise use of water to affect a 30% reduction or increased efficiency in water use in various[11] sectors by 2025 (based on 2009 water use levels)	In 2009, the most recent year for which data are available, approximately 38 billion m^3 of water were withdrawn from Canada's rivers, lakes and groundwater. The thermal power generation industry withdrew the most water, followed by the municipal, manufacturing, agricultural, mining, and oil and gas sectors. The majority of the water withdrawn is circulated back into the water body from which it was taken. In 2009, approximately 3.4 billion m^3 of water were consumed or not returned to their original source. Total water withdrawal has declined from 41 billion m^3 of water in 2005 to 38 billion m^3 in 2009. Water consumption over the same period has decreased slightly, from 3.5 billion m^3 in 2005 to 3.4 billion m^3 in 2009.

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[10] Due to program changes, this indicator will be replaced beginning in 2013–2014.

[11] Negotiations are currently underway and will include, among others, the municipal, agricultural and industrial sectors.

Performance Analysis and Lessons Learned

The Department continued to deliver on water resources management and use. Highlights of performance activities and accomplishments for 2012–2013 include the following:

- Continued close monitoring of Great Lakes water levels and broad sharing of results to a range of stakeholders, many of whom have increased requirements for current information, given a recent period of low water levels.
- Worked in collaboration with water and control boards to ensure a sufficient water supply to downstream in Quebec in response to low water levels in the Great Lakes. Regulation of Lake Ontario contributed to maintaining water levels to sustain shipping and other activities.
- Signed an agreement with the International Joint Commission (IJC) to monitor Great Lakes water levels in this major economic and recreational resource.
- Contributed scientific expertise to address water level issues in the upper Great Lakes (part of the International Upper Great Lakes Study).
- Consolidated the governance of inter-jurisdictional water boards within the Department to better serve their members.
- Advanced priorities under the Water Annex to Atlantic Canada's Memorandum of Understanding (MOU) on Environmental Cooperation to identify emerging water priorities in the regions.

A key accomplishment of 2012–2013 was the development of an MOU on the management of the Department's engagement with the IJC. The MOU provides a consolidated inventory of the roles and responsibilities of all Environment Canada employees involved in the work of the IJC. It also establishes procedures to govern how the IJC interacts with the Department—including departmental responsibility and approvals for appointments to all IJC boards. Among other elements, it includes guidance to Environment Canada staff on such issues as managing responsibilities, priorities and costs. Importantly, it also supports sequencing and increased predictability of work flow over the longer term based on past experience and challenges.

Sub-Program 1.2.3: Hydrological Service and Water Survey

Sub-Program Description

Information on the water cycle within Canada is critical to health and safety (flood forecasting and prevention) and economic efficiency (agriculture, hydroelectricity and international shipping). This program provides hydrological data, information and knowledge that Canadian jurisdictions need to make water management decisions. This program supports the goals and mandates of all levels of government involved in managing water supplies. The hydrological data, meteorological information and ancillary information provided by Environment Canada is used by international, federal, provincial, territorial and municipal agencies to regulate and respond to changing water levels and flows within Canada and in bodies of water that cross international boundaries. Under the *Canada Water Act*, monitoring aspects of this program are carried out through cost-shared bilateral agreements between Environment Canada, each of the provinces, Yukon Territory and Aboriginal Affairs and Northern Development Canada representing Nunavut and Northwest Territories. These agreements create the national framework within which Environment Canada collects, interprets and provides level and flow information data in addition to supporting scientific investigations. Delivery of the program involves staff in Environment Canada headquarters and each Environment Canada region. Program delivery may include Contributions in support of Water Resources.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
23.8	19.2	4.6

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
232	229	3

Sub-Program 1.2.3: Hydrological Service and Water Survey			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Canadians and their institutions have the hydrological data, information and knowledge they need to make water management decisions.	Level of satisfaction of primary users with Environment Canada data and services	7.5 out of 10 primary users	A survey has been developed and will be distributed to clients in fall 2013.

Performance Analysis and Lessons Learned

The following summarizes 2012–2013 performance within this sub-program:

- Monitored and reported on water levels in the Great Lakes, in collaboration with counterparts from the United States Geological Survey. The information generated informed operational requirements, as well as options for future control and improvement strategies.
- Responded to the 2011 flooding in the Richelieu River and in Lake Champlain and its tributaries by requesting, along with the Government of the United States, that the IJC review and make recommendations regarding a comprehensive study of measures to mitigate flooding and the impacts of such flooding in the Richelieu River and Lake Champlain Basin. A plan of study was developed over nine months in 2012 and 2013, with the Meteorological Service of Canada Quebec Region representing the Canada co-lead of the study group. This plan of study was approved by the IJC in the spring of 2013 and is now undergoing public consultation.
- Conducted special service trips to flood-affected areas in response to floods in northeastern British Columbia and southern Yukon, to ensure correct transmission of water level data and to measure high flows for peak flood determination.
- Provided support to provinces on water level issues and flood forecasts, including for the Assiniboine (Manitoba and Saskatchewan), Red (Manitoba), Moose (Ontario), Ottawa (Ontario and Quebec) and Coulonge (Quebec) rivers.
- Initiated the development of a risk-based approach to water quantity monitoring (in response to recommendations of the 2010 Report of the Auditor General of Canada) and reported on the tools developed. The Department worked with experts from the Canadian Water Resources Association and McMaster University, and will continue to develop and test tools in support of a risk-based approach.
- Completed the first full year of operation (2012–2013) for the new national Hydrometric Workstation, a computer system for managing the entire data production process under the Department's National Hydrometric Program.
- Continued operation of the federal/provincial/territorial national advisory table which provides a forum for management and coordination of water quantity monitoring and services in support of participating jurisdictions' goals.

- Advanced new hydrometric agreements with several provinces, with plans to finalize agreements with British Columbia and Yukon in 2013. Contributed to hydrological monitoring and understanding of freshwater inflows into the Arctic Ocean through involvement with the international Arctic Hydrological Cycle Observing System.
- Continued investments in new field technologies (in particular, hydroacoustic equipment) in all regions of Canada in order to improve the measurement of stream velocity and the estimation of flow data (see sidebar: Technology at Work).

Technology at Work—Hydroacoustic Equipment in Action

The use of hydroacoustic equipment allows for the production of real-time estimates of water level and flow in extreme event situations where water managers need up-to-date information on conditions to make informed decisions affecting public safety and property. The technology is also important from a workers' health and safety perspective as it allows a technician to spend less time in fast-flowing water under dangerous conditions.

Program 1.3: Sustainable Ecosystems

Sub-Programs for Program 1.3: Sustainable Ecosystems

1.3.1 Sustainability Reporting and Indicators
1.3.2 Ecosystem Assessment and Approaches
1.3.3 Community Engagement
1.3.4 Ecosystems Initiatives

Program Description

This program aims to sustain Canada's ecosystems over the long term by working with Canadians, their governments and the private sector by providing them with the environmental information and tools required to incorporate social, economic and environmental considerations into their decision making and action, including through environmental assessments. The ecosystem approach to environmental management focuses on maintaining the capacity of a whole system to produce ecological goods and services, such as water resources, air and water quality, and genetic resources, which maintain our economy, security, health and well-being. This program is the focal point for the development and implementation of Environment Canada's sustainability policies and strategies information to support integrated, ecosystem-scale priority setting; community engagement in remediation of sites; youth engagement; and research and reporting on environmental status and trends. The Program facilitates inter-disciplinary and cross-sectoral planning and information sharing among partners. Contributions in support of Sustainable Ecosystems are used as a component of this program.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
61.6	61.6	70.2	67.5	(5.9)

Note: The increase from planned spending to actual spending is mainly due to new funding for the Great Lakes Nutrient Initiative.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
319	329	(10)

Program 1.3: Sustainable Ecosystems			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Canadians manage ecosystem resources in a manner consistent with ecosystem sustainability.	Percentage of Canadian ecosystems where ecosystem health has been assessed as stable or improving	To be determined	Canadian Biodiversity: Ecosystem Status and Trends 2010 assessed ecosystem health in 20 areas, including major Canadian biomes; human–ecosystem interactions; and habitat, wildlife and ecosystem processes. Overall, 25% of key findings were rated as improving or as showing little change. The full report may be accessed at this website[xvii].

Performance Analysis and Lessons Learned

In 2012–2013, Environment Canada achieved most of its commitments under this program. Highlights of accomplishments and activities include the following:

- Completed amendments to the Great Lakes Water Quality Agreement—a comprehensive process that has resulted in an amended Agreement designed to safeguard the largest freshwater system in the world and will benefit millions of people on both sides of the border. This experience reinforced that the complex negotiations on horizontal issues between countries (such as the Great Lakes Water Quality Agreement) require considerable time and effort—an investment that pays off.
- Continued to deliver on the Action Plan for Clean Water through delivery of sediment management projects in the Great Lakes, and meeting commitments for ecosystems initiatives in the Great Lakes, Lake Simcoe, Lake Winnipeg, St. Lawrence and Atlantic ecosystems. Ecosystem initiatives (such as the St. Lawrence Action Plan 2011–2026) require strong engagement from all partners to deliver on planned long-term results.
- Tabled the second Federal Sustainable Development Strategy Progress Report and released the draft 2013–2016 Federal Sustainable Development Strategy for public consultation. The Department published 15 new indicators and updates to 21 indicators of environmental sustainability.

Sub-Program 1.3.1: Sustainability Reporting and Indicators

Sub-Program Description

Through this program, Environment Canada works collaboratively with Statistics Canada and Health Canada to report, through the Canadian Environmental Sustainability Indicators (CESI) initiative, on environmental indicators that track three issues of concern to Canadians: air quality, water quality and greenhouse gas emissions. This program is also responsible for implementing the *Federal Sustainable Development Act*, which gives Environment Canada the legislated mandate to lead the implementation of the Federal Sustainable Development Strategy. The Act requires that the Minister of the Environment table a federal sustainable development strategy in Parliament, complete with goals, targets and implementation strategies. In accordance with the Act, federal departments and agencies are to table individual strategies to reflect how their program activities will support the Federal Sustainable Development Strategy within one year of it being tabled in the House of Commons. These strategies will support and foster greater transparency and accountability both to the public and Parliament. Program delivery may include Contributions in support of Sustainable Ecosystems.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
6.9	7.6	(0.7)

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
53	54	(1)

Sub-Program 1.3.1: Sustainability Reporting and Indicators

Expected Results	Performance Indicators	Targets	Actual Results
Increased use of Canadian Environmental Sustainability Indicators in sustainable development policy and reporting	Annual number of print and Internet-based publications and policies that adopt as measures in publications or analyses the Canadian Environmental Sustainability Indicators	70 publications by 2013	84 publications in 2012
Policies and plans of federal government departments reflect the goals and targets in the Federal Sustainable Development Strategy.	Percentage of goals, targets and implementation strategies from the Federal Sustainable Development Strategy reported in the Expenditure Management System (Reports on Plans and Priorities, Departmental Performance Reports)	100% by 2013	95% based on review of 2013–2014 Reports on Plans and Priorities and 2011–2012 Departmental Performance Reports

Performance Analysis and Lessons Learned

Environment Canada's 2012–2013 work in this sub-program includes the following highlights:

- Tabled the second FSDS Progress Report (February 2013), which represents the collaborative efforts of more than 27 federal government departments. It describes progress toward environmental sustainability and outlines remaining challenges.
- Released the draft 2013–2016 FSDS for public consultation. The 120-day public consultation process provides Canadians with an opportunity to comment on the federal government's progress made on sustainable development and outline its goals and objectives for the coming years.
- Published 15 new indicators and updates to 21 indicators under the CESI initiative, providing Canadians with more information on environmental sustainability.

Sub-Program 1.3.2: Ecosystem Assessment and Approaches

Sub-Program Description

This program delivers scientific expertise, guidance and advice to decision makers across different levels of government, environmental and non-governmental organizations, the industrial sector, the research community, and the general public so that ecosystem information, including the environmental effects of development proposals, can be factored into their decisions. To this end, the Program conducts research, monitoring, assessment and reporting on the health of ecosystems and biodiversity. It also undertakes policy analysis, coordination and development of tools and mechanisms to support integrated ecosystem-based planning and management, including in coasts and oceans, and with a focus on vulnerable ecosystems.[12] Environment Canada participates in federal environmental assessments of private-sector and Crown corporation projects as either a federal or responsible authority, also contributing scientific expertise in provincial environmental assessments.[13] Environment Canada's involvement in strategic regional and project assessment provides a platform for the Department to contribute to the health of ecosystems in Canada.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
20.6	23.0	(2.3)

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
155	161	(6)

Sub-Program 1.3.2: Ecosystem Assessment and Approaches			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Potential significant adverse environmental effects of projects, plans, programs or policies subject to federal environmental assessment legislation and Cabinet Directives are avoided or mitigated.	Proportion of projects referred to an environmental assessment panel for which Environment Canada provided expert environmental assessment advice on potential significant adverse environmental effects, where that advice was incorporated and reflected into the Cabinet decision	100% by 2012–2013	100% in 2012–2013

Performance Analysis and Lessons Learned

Highlights of the Department's performance in 2012–2013 include the following:

- Received approximately 300 new environmental assessment projects (ranging from small to large) and supported in-depth expert reviews of the majority of these, as well as numerous projects carried over from previous fiscal years. The Department contributed expertise from the various programs that cover our broad environmental mandate.

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[12] This program also includes projects north of 60 in support of comprehensive land claim agreements.

[13] Environment Canada's role has changed since July 2012, when the *Canadian Environmental Assessment Act, 2012* came into force. Since then, the Department has been participating in federal environmental assessments as a federal authority, providing specialist or expert information or knowledge to responsible authorities, mediators and panels on environmental matters.

- Drafted outcomes and objectives to guide Environment Canada's use of environmental assessment as a tool for environmental protection. This includes Department-wide objectives and outcomes for water, air, greenhouse gas and biodiversity issues, accompanied by sector-specific sub-outcomes to guide departmental interventions in environmental assessments for major projects.
- Progressed with development of project management tools to formalize the Department's contributions to federal environmental assessments under the *Canadian Environmental Assessment Act, 2012*. The main tool—a quality management system that hardwires interim milestones and deliverables—will serve as a roadmap for the Department's environmental assessment responsibilities. The system will enhance consistency and transparency, as well as provide a streamlined briefing and approval process to support compliance with project timelines. The tool is being developed in collaboration with the Department's scientific expert support groups and Aboriginal consultation teams to ensure their needs are reflected in the final tool.
- Contributed to the development and implementation of strategic environmental assessments in development "hot spot" areas (including the Alberta oil sands area and Ontario's Ring of Fire initiative). In both cases, assessments continue to gather and integrate baseline data to better address the cumulative effects of development in these regions and to inform subsequent project reviews.

Sub-Program 1.3.3: Community Engagement

Sub-Program Description

This program engages Canadians and communities in protecting and restoring the environment through behaviour changes, capacity building, community-based funding programs and engagement activities. Key activities within this program include funding programs such as the Environmental Damages Fund and EcoAction, which empower Canadians to take action on priority environmental issues, and the management of the Biosphere Environment Museum, an exclusive venue to better understand major environmental issues, including those related to water, air, climate change, sustainable development and responsible consumption. Program delivery may include Contributions in support of Sustainable Ecosystems.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
16.0	14.2	1.8

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
49	49	0

Sub-Program 1.3.3: Community Engagement			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Increased engagement of Canadians in individual and collective activities to protect, conserve or restore the natural environment	Number of Canadians engaged in individual and collective actions to protect, conserve or restore the natural environment	40,000 Canadians	363,655 Canadians

Performance Analysis and Lessons Learned

Highlights of the Department's performance in 2012–2013 include the following:

- Funded 142 internships under the Science Horizons Youth Internship Program and the International Environmental Youth Corps Program; 72% of interns became employed at the end of their internship and 16% returned to school for advanced learning.
- Restored or improved over 1,300 ha of habitat, equivalent to two thirds the size of the city of Victoria, and engaged nearly 1,000 Canadians in actions benefiting the natural environment as a result of projects funded through fines and court awards received by the Environmental Damages Fund.

Sub-Program 1.3.4: Ecosystems Initiatives

Sub-Program Description

This program advances implementation of an ecosystem approach by providing the coordination and oversight functions for ecosystem initiatives, which have emerged as a way to achieve results in response to growing interest in achieving measurable environmental progress by developing non-regulatory tools and moving beyond jurisdictional concerns. The Program seeks to establish and provide support to shared governance mechanisms as well as to implement Grants and Contributions programs for cleanup and community projects. It also seeks to manage administrative or other types of funding arrangements as well as partnerships with provinces, the United States government, Aboriginal groups or regional stakeholders.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
18.0	22.7	(4.7)

Note: The increase from planned spending to actual spending is mainly due to new funding for the Great Lakes Nutrient Initiative.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
62	66	(4)

Sub-Program 1.3.4: Ecosystems Initiatives			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Environment Canada and partners achieve near-term objectives for environmental improvements in ecosystems of national significance	Estimated progress achieved against near-term goals and/or projects identified in federal-provincial agreements respecting ecosystem initiatives	Great Lakes: 100% by March 2013 St. Lawrence: 100% by March 2016	Great Lakes: 93% as of March 2013 Of the 189 commitments in the 2007–2012 Canada–Ontario Agreement Respecting the Great Lakes Basin Ecosystem, 176 were met, while efforts to meet the remaining commitments continue. St. Lawrence: 70% as of March 2013 Of the 80 ongoing projects of the St. Lawrence Action Plan 2011–2026 (as included in the Agreement's appendices), 56 are progressing as planned. The other projects have been revised and are

			continuing accordingly. Ongoing projects are included in 1) the Joint Action Program on the St. Lawrence, addressing three main issues facing the ecosystem—Water Quality Improvement, Sustainable Use and Biodiversity Conservation; 2) the State of the St. Lawrence Monitoring Program; 3) the Numerical Environmental Prediction Program for the St. Lawrence; and 4) the funding assistance programs for the St. Lawrence—the Community Interaction Program and the ZIP Program.
Goal 3: Water Quality–Protect and enhance the quality of water so that it is clean, safe and secure for all Canadians and supports healthy ecosystems.	For Areas of Concern (AoCs) in the Great Lakes, track change in beneficial use status from "impaired" or "requires further assessment" to "not impaired" or "restored."	Federal Sustainable Development Strategy (FSDS) target 3.1: Fresh Water Quality–Complete federal actions to restore beneficial uses in Canadian AoCs in the Great Lakes by 2020	Environmental quality in Canada's Great Lakes AoCs has improved since the restoration program began in 1987. Between 1987 and 2012, 3 of 17 Canadian AoCs had their environmental conditions fully restored (Collingwood Harbour, Severn Sound, Wheatley Harbour) and 2 more are in recovery (Spanish Harbour and Jackfish Bay).
	Ecosystem indicators aligned to the general and specific objectives of the Canada–United States Great Lakes Water Quality Agreement	FSDS target 3.2: Fresh Water Quality–Contribute to the restoration and protection of the Great Lakes by developing and gaining binational acceptance of objectives and strategies for the management of nutrients in the Great Lakes by 2015	Phosphorus levels* remain an issue in the open waters of three of the four Canadian Great Lakes. Levels in the western and central basins of Lake Erie remain above their water quality objectives, while levels in lakes Huron and Ontario and in Georgian Bay have dropped below their water quality objectives. Levels in the middle of Lake Superior and in the eastern basin of Lake Erie currently meet their water quality objectives. In 2012, the governments of Canada and the United States amended the Great Lakes Water Quality Agreement, which contains several commitments to address the issue of phosphorus in the Great Lakes.
	Assess and report on aquatic ecosystem health indicators aligned with the objectives of the Canada–Quebec Agreement on the St. Lawrence	FSDS target 3.3: Fresh Water Quality–Complete federal actions to reduce pollutants and restore beneficial uses in hot spots on the St. Lawrence River by 2016	Phosphorus levels* at six of nine water quality monitoring stations along the St. Lawrence River exceeded water quality guidelines from 2009 to 2012. Higher phosphorus levels are found in agricultural areas on the south shore of Lake Saint-Pierre. In 2011, the Government of Canada signed a 15-year agreement with the Government of Quebec to continue their collaboration to protect and restore the health of the St. Lawrence River ecosystem. The renewed St. Lawrence Action Plan will support conservation and enhancement of the St. Lawrence River, maintain and develop science-based monitoring and prediction programs, and establish grounds for the integrated governance of the ecosystem.

	Estimated nutrient reductions in Lake Simcoe	FSDS target 3.4: Fresh Water Quality – Reduce nutrient inputs into Lake Simcoe by 2012	As of March 2012, stewardship projects supported by the Lake Simcoe Clean-Up Fund were preventing an estimated 900 kg of phosphorus per year from reaching Lake Simcoe and its rivers.
	Phosphorus levels and loads in Lake Winnipeg	FSDS target 3.5: Fresh Water Quality–By 2012, through strategic collaborations and by increasing scientific knowledge, contribute to the establishment of targets to reduce nutrients in Lake Winnipeg and its basin to support the sustainability of the lake	In 2010, phosphorus levels* in the north and south basins of Lake Winnipeg were above water quality guidelines for the protection of freshwater plants and animals, while nitrogen levels were at or below the guidelines. Phosphorus levels are consistently above the guidelines in the Red River, while just over 20% of phosphorus samples in the Saskatchewan River are above guidelines for 2008 to 2010. In the Red River, almost all nitrogen samples are above the guidelines for the same period. Phosphorus and nitrogen levels are always below the guidelines in the Winnipeg River. This target has been achieved, as targets to reduce nutrients in Lake Winnipeg and its basins were established in 2011. In September 2010, the governments of Canada and Manitoba signed a five-year Memorandum of Understanding to coordinate collaboration on cleaning up Lake Winnipeg.

* Water quality objectives / guidelines and ongoing monitoring are used to protect aquatic life and the health of Canadians. Phosphorus itself is not toxic at any concentration in water. However, when phosphorus concentrations exceed objectives this can cause nuisance aquatic plants and algae to grow.

Performance Analysis and Lessons Learned

The following are highlights of Environment Canada's 2012–2013 performance in ecosystems initiatives:

Great Lakes

- Completed amendment of the Canada–United States Great Lakes Water Quality Agreement, signed by the Canadian and United States governments, reflecting commitment to a shared vision of a healthy and prosperous Great Lakes region. The amended Agreement modernizes and upholds continued work on chemicals, discharges from vessels and AoCs. It includes strengthened measures to anticipate and prevent ecological harm, as well as new provisions on aquatic invasive species, habitat degradation and the effects of climate change.
- Continued negotiation of a new Canada–Ontario Agreement on the Great Lakes with the Province of Ontario. It is anticipated that a new agreement will be in place in 2013–2014.
- Continued to implement contaminated sediment management projects with Clean Water Action Plan funding in eight AoCs: Detroit River, Bay of Quinte, Niagara River, Peninsula Harbour, St. Marys River, Thunder Bay, St. Clair River and Hamilton Harbour.
- Completed seven science cruises in Lake Erie to collect water, plant and mussel samples—analysis will improve understanding of factors that contribute to algae production and of the impacts of toxic and nuisance algae on water quality and ecosystem health. Also reviewed best practices for management of phosphorus in urban and agricultural areas.

Lake Simcoe

- Renewed the Lake Simcoe Clean-Up Fund in 2012–2013 ($29 million over 5 years) and expanded it to include southeastern Georgian Bay.

Lake Winnipeg

- Announced the renewal of Phase II of the Lake Winnipeg Basin Initiative and its stewardship fund, with Treasury Board program funding approved in September 2012.

St. Lawrence

- Implemented the Canada–Quebec Agreement on the St. Lawrence by the participating departments, as planned. Twelve community projects were also funded, through the federal-provincial Community Interaction Program. The Department collaborated with the Province of Quebec to organize a forum to bring together all stakeholders (governments, Aboriginal people, industries and non-governmental organizations) to discuss approaches to areas of ecological interest on the river.

Atlantic Ecosystem

- Invested $1.27 million to provide funding to over 20 groups to complete some 52 projects, including those related to nearshore water quality, habitat and biodiversity loss, and impacts of climate change.

Collaboration with Japan

- Collaborated with the Government of British Columbia on an agreement to transfer a $1 million grant from Japan to British Columbia [14]. The 2 jurisdictions co-chair the Tsunami Debris Coordinating Committee and oversee distribution of the funds and ensure adequate reporting on the clean-up project. The project is designed to deliver a coordinated response focused on management of public concerns and expectations. The committee (via Public Safety Canada) held a planning exercise to consider a proposed approach; 10 other federal departments and agencies and 10 British Columbia government ministries participated in the exercise. The committee will continue to work with the United States National Oceanic and Atmospheric Administration and states from California to Alaska to Hawaii over the clean-up period.

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[14] In recognition of the assistance provided to Japan following the March 2011 earthquake and tsunami, the Government of Japan offered a one-time grant of $1 million to Canada for tsunami debris clean-up.

Strategic Outcome 2:
Canadians are equipped to make informed decisions on changing weather, water and climate conditions.

Performance Indicators	Targets	Actual Results
Weather Warning Index (a weighted index of weather warning timeliness and accuracy)	7.6 on a scale of 0 to 10 by 2015 (improvement of 1.3% from current value)	The Weather Warning Index was 7.9, using data from 2010 to 2012. This represents an improvement to last year's score of 7.5 (using data from 2009 to 2011). The index is on a scale of 0 to 10, where 10 signifies that all warnings were within target lead times and that there were no missed events or false alarms.

Programs for Strategic Outcome 2

2.1 Weather and Environmental Services for Canadians

2.2 Weather and Environmental Services for Targeted Users

Program 2.1: Weather and Environmental Services for Canadians

Sub-Programs for Program 2.1: Weather and Environmental Services for Canadians

2.1.1 Weather Observations, Forecasts and Warnings

2.1.2 Health-related Meteorological Information

2.1.3 Climate Information, Predictions and Tools

Program Description

This program provides weather warnings, forecasts and information to anticipate, manage and adapt to the risks and opportunities of changing weather, water and climate conditions. It involves monitoring, research, production and service delivery to help Canadians make informed decisions in the face of changing weather, water and climate conditions. Because a global effort is needed to monitor, understand and predict constantly changing weather, water and climate conditions, this program provides support to and relies on various collaborators in Canada and around the world. Key collaborators include the World Meteorological Organization of the United Nations and the Intergovernmental Panel on Climate Change, as well as the media, academia and all levels of government in Canada. The Program supports the Department in meeting obligations and responsibilities conferred by the *Department of the Environment Act*, the *Weather Modification Information Act*, the *Emergency Management Act* (2007) and memoranda of agreement with national meteorological and space agencies. This program also provides forecasts and information in case of environmental emergencies associated with the release of toxic and radioactive material in the atmosphere. This Government of Canada program is the only one with such a national mandate, and has the infrastructure and skills to deliver these services. Grants and Contributions in support of Weather and Environmental Services for Canadians are used as components of this program.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
191.3	191.3	177.2	167.7	23.6

Note: The decrease from planned spending to actual spending is mainly due to the transfer of responsibilities and funds to Shared Services Canada. This decrease was partially offset by funding received for fast start financing under the Copenhagen Accord.

Human Resources (Full-time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
1,031	1,014	17

Program 2.1: Weather and Environmental Services for Canadians			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Canadians understand information on the changing weather, water and climate conditions and the associated health and safety risks.	Percentage of the population indicating that they understand the differences between severe weather watches and warnings and the implications for their safety	20% by 2015	21% in the 2012 survey The proportion of respondents who selected the correct differences, timing and likelihood of an event is 21% compared to 10% in 2011.This indicator is being changed to focus on wind chill for 2013–2014 reporting.
	Percentage of the population of a warned area who took actions in response to a weather warning	30% by 2014	43% in the 2012 survey
	Percentage of targeted sensitive populations within selected regions receiving information on the Air Quality Health Index (AQHI) who identify potential behaviour changes in response to current and/or forecast AQHI levels that are consistent with health messaging	10% to 20% of sensitive population (range is due to regional variation) by 2016	42% in the July 2012 survey A value of 42% was obtained in both a post-smog event survey conducted in Windsor, Ontario, in July 2012 and a national omnibus survey from October 2011. During the year, the AQHI was expanded to 12 communities across 5 provinces.

Performance Analysis and Lessons Learned

Environment Canada achieved performance and met commitments, as planned. Highlights of accomplishments and progress in 2012–2013 include the following:

- Progressed with the internal transformation of its weather warning prediction services including air quality and health-related services, providing Canadians with more timely, accessible and accurate weather information.
- Strengthened and modernized the extensive weather monitoring infrastructure (see Technology at Work sidebar on next page).

- Supported the adoption of the Meteorological Service of Canada's quality management system (certified by the International Organization for Standardization [ISO]) by other key partners in weather and environmental service delivery (including Shared Services Canada [SSC]). This is a significant development, as ISO certification is required in order to meet new requirements of both the International Civil Aviation Organization and the World Meteorological Organization (WMO). This effort represents the first time that two independent organizations (Environment Canada and SSC) reside under a single ISO certification. Extensive work was required so that the Meteorological Service of Canada and SSC were aligned with respect to mission, vision and objectives—to ensure that the mission-critical services continue to function at the high level required.
- Strengthened the resilience of the weather and environmental service programs through effective integrated planning, performance management with a strong focus on risk, business continuity planning and testing.

Technology at Work—Investments in Weather Infrastructure

Significant changing weather and climate conditions experienced in Canada and around the world underscore the critical role of the Department's weather services to the health, safety, security and economic well-being of individuals and communities. In recognition of this role, Budget 2011 announced $78.7 million in funding for 5 years to strengthen the weather monitoring infrastructure—specifically for important upgrades to the Canadian Weather Radar Network, the Canadian Weather and Climate Observing Networks, and the Canadian Lightning Detection Network. This work will modernize the Department's monitoring systems to improve access by Canadians to weather, water and climate monitoring information, and will enhance Environment Canada's weather forecasts and warnings.

On the international front:

- Developed, in collaboration with United States partners under a memorandum of understanding with the National Oceanic and Atmospheric Administration, a better understanding of capabilities, systems and data management practices toward further integrating our related forecast systems, observation networks, climate and hydrological services in areas of joint interest (Arctic and Great Lakes regions, oil spill response, and marine forecasting).
- Contributed scientific input to drafts of the Intergovernmental Panel on Climate Change Fifth Assessment Report and Arctic Council Technical Reports on Short-Lived Climate Pollutants. Canada is also a lead partner and a major financial contributor to the Climate and Climate Air Coalition, established this past year to reduce SLCPs.
- Hosted an international snow-watch workshop as part of Canada's contribution to the Global Cryosphere Watch program under the WMO.
- Provided international leadership for the establishment of a Global Framework for Climate Services with the WMO.
- Renewed a number of joint research projects with China, under a memorandum of agreement with the China Meteorological Administration, to advance the development of climate and weather predictions.

Sub-Program 2.1.1: Weather Observations, Forecasts and Warnings

Sub-Program Description

This program provides 24 hours/day, 365 days/year weather warnings, forecasts and information with lead times of minutes to weeks. Above all, it allows Canadians to anticipate dangerous meteorological events so they have the time needed to protect themselves and their property. Its activities combine centralized functions like supercomputing and research with regional monitoring and service delivery. The Program is delivered through collaborations involving data, science and information distribution in Canada and internationally. Key collaborators include the media, all levels of government and academia in

Canada, other national meteorological services, research and space agencies, and the United Nations World Meteorological Organization to which this program annually contributes about $2 million to support Canada's international commitments in meteorology and hydrology. Legal and statutory responsibilities for this program include the *Department of the Environment Act* and the *Weather Modification Information Act*. In addition, support is provided to other departments acting under the *Emergency Management Act* (2007). Program delivery includes Assessed contribution to the World Meteorological Organization (WMO) and may include Grants and Contributions in support of Weather and Environmental Services for Canadians.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
165.0	140.1	25.0

Note: The decrease from planned spending to actual spending is mainly due to the transfer of responsibilities and funds to Shared Services Canada. This decrease was partially offset by funding received for fast start financing under the Copenhagen Accord.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
821	808	13

Sub-Program 2.1.1: Weather Observations, Forecasts and Warnings			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Canadians have the information they need on current and changing weather conditions.	Percentage of the population who are somewhat or very likely to access weather information during a typical day	90%	90% in the 2011 Weather and Environmental Services Quality of Service Survey The number of visits to weather.gc.ca exceeded 590 million this year.
	Percentage of the population who indicate that weather forecasts are "always" or "usually" useful	85% by 2015	82% in the 2011 Weather and Environmental Services Quality of Service Survey

Performance Analysis and Lessons Learned

Highlights of accomplishments and progress for this sub-program in 2012–2013 include the following:

- Implemented new and improved versions of two weather prediction systems to enable more accurate weather prediction—including one with a 10-hour gain in predictability, representing the most significant improvements for winter season predictability in the last decade.
- Increased the reach of weather warnings to all Canadians by completing an agreement with Google to disseminate warnings on Google Alert[xviii].
- Progressed well on the Weather Warning Re-engineering Project. New forecast generation approaches were pilot tested, which improved the performance of the weather warning system.
- Invested in HOGEN (hydrogen generator) technology—a proactive measure against the rising cost (and increasing rarity) of helium for launching weather balloons—and launched the first HOGEN series in Newfoundland and Labrador as part of the upper air network.
- Participated as the lead in a multi-year World Meteorological Organization initiative (Solid Precipitation Intercomparison Experiment – SPICE) to test technologies for improving snowfall measurement in order to improve the quality and reliability of snow observations in Canada and around the world.

- Upgraded 22 surface weather stations and several radar facilities as part of a larger atmospheric monitoring modernization initiative, and improved weather prediction capacity through the use and/or acquisition of new radar products.
- Advanced preparations for the Pan American Games Project, which saw the successful development and demonstration of new tools for use such as early warning systems, heat and air quality indices, and data acquisition.

Sub-Program 2.1.2: Health-related Meteorological Information

Sub-Program Description

This program provides forecasts, tools and information on atmospheric conditions that affect health, such as UV (ultraviolet) radiation, extreme temperatures and air quality. It supports the mandates of Environment Canada, Health Canada and many public and non-governmental health agencies. The Program's services assist Canadians in making decisions about their short- and long-term health, and enable health agencies to help vulnerable populations respond to changing atmospheric conditions. This program is delivered across Canada through collaborations involving data and information distribution. Collaborators include the media, public health agencies at all levels of government, provincial environment agencies and non-governmental agencies. This program also includes the World Ozone and Ultraviolet Radiation Data Centre, operated on behalf of the World Meteorological Organization and used by over 75 government agencies around the world. Program delivery may include Grants and Contributions in support of Weather and Environmental Services for Canadians.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
9.2	8.8	0.4

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
65	63	2

Sub-Program 2.1.2: Health-related Meteorological Information			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Canadians have the information they need to protect their health against risks related to air quality and other atmospheric conditions.	Percentage of targeted sensitive populations within selected regions receiving information on the Air Quality Health Index (AQHI) who report that they recall seeing or hearing AQHI information	10–20% of sensitive population (range is due to regional variation) by 2016	17% in the 2011 AQHI national survey
	Percentage of the general population within selected regions receiving Air Quality Health Index (AQHI) who report that they recall seeing or hearing AQHI information	3–8% of general population (range is due to regional variation) by 2016	15% in the 2011 AQHI national survey

Performance Analysis and Lessons Learned

Highlights of accomplishments and progress in 2012–2013 for this sub-program include the following:

- Carried out ongoing work with Health Canada on the Air Quality Health Index (AQHI).[15] The Index is well on target to be available in all provinces and territories by 2016. During the year, it was expanded to 12 communities across 5 provinces. Development also continued on a high-resolution (2.5 km) version of the air quality forecast model.
- Pursued work with Health Canada and other partners that will result in the provision of extreme temperature warnings to Canadians through an approach similar to the AQHI, in recognition that extreme temperatures can be dangerous to health—in particular, to certain vulnerable populations.
- Continued to track changes in the ozone layer over the Arctic (see sidebar: Science at Work).

Science at Work—Stratospheric Ozone Monitoring

Environment Canada has been a world leader in atmospheric ozone science for 50 years and continues to track changes in the depletion of the ozone layer. Data collected are available via the World Ozone and Ultraviolet Radiation Data Centre and will be used in the World Meteorological Organization/United Nations Environment Programme (WMO/UNEP) "Scientific Assessment of Ozone Depletion: 2014".

Sub-Program 2.1.3: Climate Information, Predictions and Tools

Sub-Program Description

This program provides information on past climate and produces predictions, tools and information on Canada's existing and changing climate to inform policy development and decisions on adaptation and risk mitigation. This includes predictions and information on hazards for disaster management, climate design values for infrastructure codes and standards, and information Canadians and their institutions need regarding the safety, health and economic impacts of the climate and its changes. This program is delivered, nationally and regionally, through collaborations involving data, science and information distribution. Key collaborators include the media, all levels of government and academia in Canada, plus international organizations such as the Intergovernmental Panel on Climate Change, the World Meteorological Organization, and various national climate agencies. Legal and statutory responsibilities for this program include the *Department of the Environment Act*, the *Emergency Management Act* (2007), and the *National Research Council Act* (Canadian Commission on Building and Fire Codes). Program delivery may include Grants in support of Weather and Environmental Services for Canadians and Grants and Contributions in support of Weather and Environmental Services for Canadians.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
17.0	18.8	(1.8)

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
146	143	3

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[15] Data for the AQHI are provided by Environment Canada's National Air Pollution Surveillance program (www.ec.gc.ca/rnspa-naps/)

Sub-Program 2.1.3: Climate Information, Predictions and Tools			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Clients and users have the information they require on climate projections and climate data sets on various time and spatial scales.	Five-year running average of the number of downloads of climate datasets	9,000 downloads by March 2013	21,298 downloads in 2012–2013 Available data were insufficient to calculate a 5-year average.

Performance Analysis and Lessons Learned

Highlights of the accomplishments and progress in 2012–2013 include the following:

- Initiated engagement with stakeholders including other federal government departments, provinces and territories, and the private sector on the provision and use of updated climate data and information to support adaptation to climate change in Canada.
- Continued to enhance global and regional-scale climate projections from decades to century time scales to support, among others, longer-term planning in climate-sensitive sectors and mitigation planning.
- Made available to the public a range of data and information, including the following: information and data from its global and regional climate models (on the Canadian Centre for Climate Modelling and Analysis website[xix]); information and data on climate change scenarios (on the Canadian Climate Change Scenarios Network website[xx]); and homogenized Canadian climate data (on the Environment Canada Adjusted and Homogenized Canadian Climate Data website[xxi]).
- Re–launched the Climate.Weather.gc.ca website[xxii], which provides historic weather data, with a new look and feel that enhances the usability and accessibility of the data, and helps to showcase the more popular climate-related products. The Climate website received 3.9 million visits in the 2012–2013 fiscal year.
- Responded to 1,627 requests for site-specific wind pressure analyses in support of cellular tower construction, as well as more than 200 other requests for climatic design data in support of the *National Building Code of Canada* and other infrastructure standards.
- Provided specialized climate data services across the country including responding to clients' requests and providing feedback in comprehensive areas related to climate data, extraction and processing of climate data.
- Expanded the Canadian greenhouse gas observations network (two new sites in the Arctic), bringing the total to 15 sites in Canada.
- Participated in a field research campaign to characterize snow cover properties in the western Arctic. Climate scientists published papers in the peer-reviewed scientific literature covering topics such as global and regional climate model development and results, climate trends and variability analysis, climate extremes, greenhouse gas modelling, Arctic snow cover, and sea ice in the Canadian Arctic Archipelago.

Did you know?

Environment Canada experienced a 20% increase (March 2012 to March 2013) in the use of its free electronic weather and environmental data service (Meteorological Service of Canada's Datamart), reflecting 410 unique visitors per day.

Program 2.2: Weather and Environmental Services for Targeted Users

Sub-Programs for Program 2.2: Weather and Environmental Services for Targeted Users

2.2.1 Meteorological Services in Support of Air Navigation
2.2.2 Meteorological and Ice Services in Support of Marine Navigation
2.2.3 Metrological Services in Support of Military Operations
2.2.4 Meteorological Services for Economic and Commercial Sectors

Program Description

This program provides essential decision-making tools and information on the changing weather to targeted sectors and their regulatory agencies, to help them anticipate, manage and adapt to the risks and opportunities created by changing weather and climate conditions. It involves monitoring, research, production and service delivery in order to support sustainable decision making by targeted sectors in the face of changing weather, water and climate conditions. It provides observations, forecasts and warnings 24 hours/day, 365 days/year, along with other tools tailored to users' specific needs. It requires various collaborations, within Canada (including other government departments and provincial agencies), and internationally with the World Meteorological Organization, the International Civil Aviation Organization, as well as other United States government institutions. This program supports the Department in meeting obligations and responsibilities conferred by the *Department of the Environment Act*; helps other government departments meet their obligations under the *Aeronautics Act*, the *Oceans Act* and the *Fisheries Act*; and supports memoranda of agreement with Transport Canada, the Department of National Defence (DND) and various provincial agencies.[16]

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
25.8	32.3	26.7	23.0	9.2

Note: The decrease from planned spending and FTEs to actual spending is mainly due to the realignment of funding received for fast start financing under the Copenhagen Accord to the Weather and Environmental Services for Canadians Program.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
427	416	11

Program 2.2: Weather and Environmental Services for Targeted Users			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Targeted sectors have the meteorological and environmental information and services they need to operate efficiently and safely.	Combined level of satisfaction of the main clients of the Meteorological Service of Canada (MSC) based on the statement "The services provided by the MSC meet our needs."	7.5 out of 10 for the main clients by 2012–2013	7.8 out of 10 for the main clients The value is based on formal surveys administered to NAV CANADA and clients of the Canadian Lightning Detection Network. A formal survey was also administered to DND, but the number of responses was too small to be included.

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[16] This program also supports a memorandum of understanding with Fisheries and Oceans Canada.

Performance Analysis and Lessons Learned

Environment Canada achieved performance and met commitments planned for this program. Highlights of 2012–2013 accomplishments and activities include the following:

- Continued delivery of services to key targeted users, including NAV CANADA, Transport Canada, the Canadian Coast Guard and DND, and leveraged infrastructure investments from Program 2.1 to improve services to targeted users.
- Continued to effectively leverage forecast and warning capacity and infrastructure described in Program 2.1, including recent investments ($78.7 million over 5 years from Budget 2011) towards modernizing the Department's monitoring systems to support ongoing access by Canadians—as well as Environment Canada's targeted users—to weather, water and climate monitoring data, as well as to improved weather forecasts and warnings.
- Completed a second expansion of marine weather and ice services in the Arctic through the METAREAS initiative.
- Partnered with the Royal Canadian Air Force to launch ice buoys that help transmit data on air pressure, temperature and ice movement (see sidebar: Partnerships at Work).

Partnerships at Work—Launching Buoys with the Royal Canadian Air Force

Environment Canada (Meteorological Service of Canada) teamed up with the Royal Canadian Air Force in a groundbreaking mission to deploy sophisticated ice buoys in the most northwesterly region of the Arctic Ocean. An agreement between the two organizations allowed the buoys to be dropped from a Hercules aircraft, which enabled the team to venture to areas beyond the range of most small aircraft, in order to find ice that would remain intact for two to three years (the average life span of an ice buoy). Under the three-year agreement, Environment Canada will continue to deploy the buoys, which transmit data hourly on air pressure, temperature and ice movement.

Sub-Program 2.2.1: Meteorological Services in Support of Air Navigation

Sub-Program Description

This program provides the aviation industry and its regulatory agency with meteorological services (observations, forecasts, warnings) 24 hours/day, 365 days/year. It supports the goals and missions of NAV CANADA and Transport Canada, and supports the domestic and international airlines that operate in Canadian territory in their making the tactical decisions needed to maximize their efficiency, effectiveness and safety. This program also includes the Volcanic Ash Advisory Centre (VAAC), one of nine such centres around the world operating under the authority of the International Civil Aviation Organization. The VAAC forecasts the transport of airborne volcanic ash to reduce the risk of aircraft disasters, and provides operational support and backup to other VAACs worldwide. This program, delivered under a contract between Environment Canada and NAV CANADA, is critical to Transport Canada's ability to deliver its mandate under the *Aeronautics Act*.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
5.7	5.1	0.6

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
161	155	6

Sub-Program 2.2.1: Meteorological Services in Support of Air Navigation			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
NAV CANADA and the aviation industry have the meteorological information and services they need to maximize their efficiency and aviation safety.	Overall client satisfaction index, on a scale of 1 (unsatisfactory) to 10 (excellent)	Equal to or above 7.5 Currently met; to be maintained	8 out of 10

Performance Analysis and Lessons Learned

Accomplishments and activities in this sub-program include the following:

- Continued to leverage international contributions through the development of a new tool (NINJO) to produce Aviation Warnings (SIGMETS), which is also being adopted by an international consortium of Weather Services (including Germany, Switzerland and Denmark), ensuring good value for money for Canadians.
- Actively participated, through the Canadian Volcanic Ash Advisory Centre, in both improving operational response through software upgrades and the use of Moderate-Resolution Imaging Spectroradiometer images, and in contributing to the International Volcanic Ash Task Force in the wake of the eruption at Eyjafjallajökull in April 2010.
- Continued to provide significant support to NAV CANADA on the deployment of its next generation of aviation weather observation stations.
- Made progress on a project to modernize the production of forecasts for airports.

Sub-Program 2.2.2: Meteorological and Ice Services in Support of Marine Navigation

Sub-program Description

This program provides marine industries and regulatory agencies with forecasts of the sea state, ice conditions and weather, 24 hours/day, 365 days/year. Services under this program support the goals and mandates of the Canadian Coast Guard of Fisheries and Oceans Canada, and support marine industries and other interests operating in Canadian waters—such as organizations involved in shipping, fisheries and resource extraction—in making tactical decisions (e.g., on ship routing) needed to maximize their effectiveness and safety. As a key collaborator, the Canadian Coast Guard broadcasts Environment Canada information related to this program to marine interests and provides in-situ weather and sea-state information to Environment Canada. This program is critical to the safety and effectiveness of the operations of the Canadian Coast Guard and Fisheries and Oceans Canada. It is operated in part through a memorandum of understanding with Fisheries and Oceans Canada for services related to ice conditions over Canadian navigable waters. Legal and statutory responsibilities for this program include the *Department of the Environment Act*, the *Oceans Act* and the *Fisheries Act*. The Program also supports international commitments to the International Convention on Safety of Life at Sea, 1974 (SOLAS), the Global Maritime Distress and Safety System and the North American Ice Service.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
18.7	12.0	6.8

Note: The decrease from planned spending to actual spending is mainly due to the realignment of fast start financing under the Copenhagen Accord to the Weather and Environmental Services for Canadians program.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
146	148	(2)

Sub-Program 2.2.2: Meteorological and Ice Services in Support of Marine Navigation			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Marine communities have the weather, wave and ice information they need to operate safely and efficiently in Canadian waters.	Percentage of mariners who indicate satisfaction with ability to access information	To be determined	91% based on the 2012 survey Survey participants were heavily weighted towards recreational boaters (70%), who were located mainly on the Pacific Coast and Great Lakes (60%). A strategy is being developed to reach other types of users.
	Number of requests from users for additional (ad hoc/on demand) information	0 by the end of 2012–2013	In 2012–2013, 10 requests were received for additional ice information and 5 for weather and sea-state information. The intent of the program is to minimize the number of requests through improvements to the standard bulletins and forecasts.

Performance Analysis and Lessons Learned

The following summarizes performance for this sub-program:

- Renewed (until 2017) a strategic partnership between the Canadian Ice Service and Transport Canada's National Area Surveillance Program. This will allow for the expansion of multi-agency activities over Canadian waters in support of pollution protection, safety and sovereignty.
- Continued to provide services on a 24/7 basis to support the Canadian Coast Guard and to support an increasingly diverse client base for ice products and services, including provincial and national emergency management organizations.
- Progressed on the METAREAs project with the expansion of forecast coverage over international waters, the installation of surface weather stations in the Arctic and the deployment of buoys, in partnership with DND (see earlier Partnerships at Work sidebar, page 57).
- In support of other government departments (OGDs), contributed to Canadian Coast Guard's document "Ice Navigation in Canadian Waters"[xxiii], Fisheries and Oceans Canada's online "Arctic Mariners Routing Guide"[xxiv], and provided ice information supporting the Franklin Expedition.

Sub-Program 2.2.3: Meteorological Services in Support of Military Operations

Sub-Program Description

This program provides the Department of National Defence (DND) with meteorological and oceanographic information, predictions and tools needed for operations of the Canadian Forces (CF) in Canada and abroad. It is a collaborative program, operating under a formal memorandum of understanding with DND, responding to CF-specific needs and recovering its incremental costs from DND. This program is critical to CF operations, contributing to the effectiveness and safety of tactical and strategic manoeuvres within Canada and in various active military areas around the world.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
3.4	2.5	0.9

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
87	80	7

Sub-Program 2.2.3: Meteorological Services in Support of Military Operations			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
DND has the meteorological and oceanographic information and knowledge it needs to optimize its operations in Canada and abroad	Client satisfaction index, on a scale of 1 (unsatisfactory) to 10 (excellent), that combines input from survey data and DND management feedback	7.0 on a scale of 1 (unsatisfactory) to 10 (excellent) by 2012	Ongoing client consultation suggests that there is satisfaction with the services provided. The implementation of a Web-based survey is being considered.

Performance Analysis and Lessons Learned

In this sub-program:

- Continued to provide support in the form of timely and accurate weather prediction services to military missions and exercises in Canada and abroad, while implementing the transformation of the Canadian Forces Weather and Oceanographic Services.
- Completed implementation of the Joint Meteorological Centre in Gagetown.

Sub-Program 2.2.4: Meteorological Services for Economic and Commercial Sectors

Sub-Program Description

This program provides a variety of economic and commercial sectors (such as media, natural resources sectors, and specialized users) with meteorological and climate services. This information and tools are used to make tactical and strategic decisions and maximizing economic and commercial efficiency, competitiveness, environmental performance and safety in the short and longer term. In doing so it supports the mandates of Natural Resources Canada, Agriculture and Agri-Food Canada, and others (such as provincial agencies). Many economic sectors are sensitive to changing weather and climate with respect to the safety and cost-effectiveness of their operations (e.g., just-in-time delivery, pest management), the demand for their services (e.g., hydro-electrical generation) and the future of their industry. Specialized data services allow users to obtain pertinent information through such mechanisms as specialized data links or one-on-one consultations. This program is delivered across Canada through collaborations involving data and science, often on a cost-shared or cost-recovered basis.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
4.5	3.5	1.0

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
33	33	0

Sub-Program 2.2.4: Meteorological Services for Economic and Commercial Sectors			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Targeted Canadian economic sectors have the meteorological information they need for their decision making.	Satisfaction level of the media with respect to the services provided by Environment Canada, on a scale of 1 (unsatisfactory) to 10 (excellent)	To be determined	7.4 out of 10 based on the 2012 survey of media clients

Performance Analysis and Lessons Learned

Accomplishments in 2012–2013 in support of this sub-program include the following:

- Provided lightning data to all Canadians in the form of new lightning danger maps products on the weather website, updated every 10 minutes—an improvement made possible by Budget 2011 investments in the Canadian Lightning Detection Network. Environment Canada also expanded Canadian Lightning Detection Network products and established new agreements with clients.
- Carried out work funded by Natural Resources Canada's ecoENERGY Innovation Initiative on projects to improve Canada's capacity to estimate wind farm potential production levels using numerical weather prediction models.

Strategic Outcome 3:
Threats to Canadians and their environment from pollution are minimized.

ⓐ

Performance Indicators	Targets	Actual Results
Canadian emissions of greenhouse gases (GHG) (carbon dioxide equivalents [CO_2 eq] in megatonnes [Mt])	Performance Measurement Framework target: Canada's national target is a 17% reduction from 2005 levels by 2020 (i.e. 607 Mt) Federal Sustainable Development Strategy target 1.1: Climate Change Mitigation–Relative to 2005 emission levels, reduce Canada's total GHG emissions 17% by 2020	Canada's total GHG emissions in 2011 were 702 Mt of CO_2 eq, or 5% (35 Mt) below the 2005 emissions of 737 Mt. In part due to announced federal and provincial measures, Canada is projected to reduce its emissions by 130 Mt in 2020 when compared to its initial projected business-as-usual GHG emissions in 2020.
Canadian ambient air quality (fine particulate matter and ground-level ozone)	Ambient concentrations of fine particulate matter ($PM_{2.5}$) target: below the $PM_{2.5}$ 24-hour Canadian ambient air quality standard of 28 micrograms per cubic metre ($\mu g/m^3$) for 2015 Ambient concentrations of ground-level ozone target: below the ozone 8-hour Canadian ambient air quality standard of 63 parts per billion (ppb) for 2015	These two indicators are aligned with the Canadian Ambient Air Quality Standards (CAAQS) for fine particulate matter and ozone developed under the Air Quality Management System and agreed to by the Canadian Council of Ministers of the Environment in October 2012. In 2011, the national average of the peak (98th percentile) 24-hour $PM_{2.5}$ concentrations was 22.1 $\mu g/m^3$, which is below the 24-hour CAAQS of 28 $\mu g/m^3$ for 2015. In 2011, the national average of the peak (98th percentile) 24-hour $PM_{2.5}$ concentration was 14% lower than in 2010. Between 2000 and 2011, the indicator remained below the 2015 CAAQS, and no trend was detected. Some factors that likely contributed to the concentration changes between 2010 and 2011 include a reduction in emissions that contribute to particulate pollution in Canada, a decrease in transboundary pollution from the United States, a less severe forest fire season, and variation in both the weather conditions that influence particulate formation and in regional transport patterns. In 2011, the national average of the peak (4th-highest) 8-hour ozone concentration was 57 ppb, which is below the ozone 8-hour CAAQS of 63 ppb for 2015. Between 1997 and 2011, the annual 4th-highest ozone concentration decreased by 15%. Reduction in emissions of ground-level O_3 precursor gases (nitrogen oxides [NO_x] and volatile organic compounds [VOC]) from both Canada and the United States is an important factor for this downward trend for the indicator.

Programs for Strategic Outcome 3

3.1 Substances and Waste Management

3.2 Climate Change and Clean Air

3.3 Compliance Promotion and Enforcement - Pollution

Program 3.1: Substances and Waste Management

Sub-Programs for Program 3.1: Substances and Waste Management

3.1.1 Substances Management

3.1.2 Waste Management

3.1.3 Environmental Emergencies

3.1.4 Contaminated Sites

Program Description

Activities in this program reduce threats to health and the environment posed by pollution and waste from human activities. The Program assesses risks to health and the environment from substances that are already in commercial use (existing substances) and substances proposed for introduction into use in Canada (new substances). It also develops and implements measures to prevent or manage the risks from these substances and waste. Contributions in support of Substances and Waste Management are used as a component of this program.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
81.7	81.7	87.7	79.3	2.4

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
593	578	15

Program 3.1: Substances and Waste Management			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Threats to Canadians and impacts on the environment posed by harmful substances and waste are reduced. Goal 3: Water Quality – Protect and enhance the quality of water so that it is clean, safe and secure for all Canadians and supports healthy ecosystems.	Percentage of drainage regions where Canadian or Federal Environmental Quality Guidelines (FEQGs) are not exceeded for selected substances in sediment, water and/or biota. Substances currently reported under this indicator: • polybrominated diphenyl ethers (PBDEs) • perfluorooctane sulfonate (PFOS)	PBDEs: 80% in 2012–2013 PFOS: 80% in 2013–2014	PBDEs: 10% for fish and 60% for sediments for the period 2007 to 2010 Levels of PBDEs in fish and sediments were below the FEQGs within the majority of sampled drainage regions in Canada. Exceedances occurred mainly for pentaBDEs in fish in most sampled drainage regions and for tetraBDE, pentaBDE and decaBDE in fish and sediment samples within 4 of 13 sampled drainage regions. PFOS: 100% for water and fish tissue and 40% for fish as food for wildlife, for the period 2006 to 2010

			Concentrations in fish tissue were below the draft FEQG for fish health in all fish in all sampled drainage regions. Of the 13 sampled drainage regions, 8 had concentrations of PFOS that exceeded the draft wildlife diet FEQGs for the protection of mammals and birds that eat the fish. No water samples from 11 drainage regions exceeded the draft FEQG for water. Not all of Canada's 25 drainage regions are sampled. The choice of which drainage regions are sampled is based on which areas are at the most risk for exceeding FEQGs.
Goal 2: Air Pollution – Minimize the threats to air quality so that the air Canadians breathe is clean and supports healthy ecosystems.	Levels of exposure to substances of concern by substance (air pollution only)[17]		Results to be reported in Health Canada's DPR 2012–2013[xxv].

Performance Analysis and Lessons Learned

Environment Canada's performance and accomplishments progressed as planned in 2012–2013.

- Delivered on the second phase of the Chemicals Management Plan (CMP) in collaboration with Health Canada. The Department continued to assess and manage the potential health and ecological risks associated with approximately 1,500 existing substances (by 2016), and assessed all new substance notifications (over 500) received during the year. Environment Canada also developed risk management tools for over 30 substances, or groups of substances, assessed to be most harmful to the environment or human health.
- Conducted research and monitoring on existing and emerging chemicals of concern, including those used widely, such as flame retardants, which may affect hormone function.
- Undertook targeted risk management activities to address 32 existing substances. This work included final pollution prevention planning notices for bisphenol A, isoprene and D4 siloxane, and amending the *Prohibition of Certain Toxic Substance Regulations, 2012* to add 4 substances.
- Contributed to key international efforts that support domestic priorities, including initiatives that address persistent organic pollutants, mercury and the transboundary movement of hazardous wastes.
- Progressed with the development of regulations, adding four substances to the existing *Prohibition of Certain Toxic Substance Regulations, 2012*; established regulations for effluent from wastewater systems; commenced a review of the *Metal Mining Effluent Regulations;* and initiated updates to the *Disposal at Sea Regulations*.
- Delivered on initiatives in support of environmental emergencies commitments under the CMP and to develop and maintain compliance promotion data analysis. The Department continued with its ongoing assessment of substances with high spill rates and those identified as priorities under the CMP.
- Continued to support federal departments that are custodians of contaminated sites and progressed with remediation and assessment sites for which it is the custodian.

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[17] This indicator is produced by Health Canada.

Sub-Program 3.1.1: Substances Management

Sub-Program Description

This program is jointly implemented by Health Canada and Environment Canada and is aimed at reducing threats from harmful substances to human health and releases to the environment. The program intends to achieve efficient and effective management of the risks posed by substances through setting priorities and taking effective regulatory actions (or other measures where appropriate) based on science-based risk assessment. Adaptive substance management and improvements are pursued through new findings in both research and monitoring, as well as international collaboration. Transparency with stakeholders is maintained by providing the opportunity to offer advice and input on the implementation of the program through both regulatory and institutional/issue-specific consultation processes. Relevant legislation includes the *Canadian Environmental Protection Act, 1999*, the *Food and Drugs Act*, the *Pest Control Products Act* and the *Hazardous Products Act*. International obligations include the Rotterdam Convention, the Stockholm Convention, the Convention on Long-Range Transboundary Air Pollution and the Montreal Protocol. Program delivery includes the assessed contribution to the Organisation for Economic Co-operation and Development (OECD).[18]

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
47.1	45.1	2.0

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
358	346	12

Sub-Program 3.1.1: Substances Management			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Reduced releases to the environment of toxic and other substances of concern	Canadian releases of selected controlled substances	Performance Measurement Framework targets: Hexavalent chromium: 1,900 kg releases (air and water) by 2015	Hexavalent chromium: 1,563 kg released to air and water in 2011, as reported to the National Pollutant Release Inventory for the 2011 reporting year The target of 1,900 kg has been met.
		PCBs: 10 kg by 2012[19]	PCBs: 1.15 kg The target of 10 kg has been met. This quantity was calculated from individual reports for improved accuracy rather than using averages.
		Federal Sustainable Development Strategy targets 2.3 and 3.12[20]: Chemicals Management–Reduce risks to Canadians and impacts on the environment posed by harmful substances as a result of decreased environmental concentrations and human exposure to such substances	Compared to 1990, mercury emissions to air in 2011 had decreased by 90% (31.3 tonnes). Since 2005, there has been a decline in hexavalent chromium releases to air and water. The amount of mercury, cadmium and lead released to water was lower in 2010 than in 2003.

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[18] Work in support of the Montreal Protocol is reported under Program 3.2.2.

[19] This target pertains to releases controlled by the *PCB Regulations* under the *Canadian Environmental Protection Act, 1999*.

[20] These two targets are co-led by the Minister of the Environment and the Minister of Health.

Performance Analysis and Lessons Learned

Highlights of Environment Canada's achievements in 2012–2013 include the following:

- Continued, in partnership with Health Canada, to implement the second phase of the Chemicals Management Plan (CMP) by publishing on the Chemical Substances website. Accordingly, 5 proposed risk management (RM) instruments were published for 10 substances; in addition, 14 final RM instruments were published for 22 substances. The Department also amended the *Prohibition of Certain Toxic Substance Regulations, 2012*, adding substances such as chlorinated alkanes and tributyltins. In addition, 4 federal environmental quality guidelines were published. This constitutes real progress towards addressing approximately 1,500 substances by 2016.
- Assessed of all 504 New Substance Notifications received in 2012–2013. For the 23 substances assessed to be harmful to human health and/or the environment, an appropriate risk management instrument was developed within the mandated time frame.
- Continued research into substances, including those that may affect hormone function. The Department also continued the monitoring of priority chemicals to inform risk assessment and risk management activities—including publishing a multi-media factsheet on polybrominated diphenyl ethers (PBDEs), often used in flame retardants.

In the International Arena—Reducing Global Mercury Emissions

Environment Canada led Canada's negotiations towards a global, legally binding agreement on mercury under the United Nations Environment Programme to reduce global mercury emissions that present risks to humans and their environment, especially to Canada's arctic ecosystem and northern populations. With negotiations successfully completed, the treaty will be formally adopted as the Minamata Convention on Mercury in October 2013.

On the international front, the Department continued to make contributions in support of domestic efforts, including the following:

- Completed the update of Canada's National Implementation Plan for the Stockholm Convention, which outlines how Canada will implement its Convention obligations; and,
- Successfully concluded negotiations in January 2013, under the auspices of the United Nations Environment Programme, on the Minamata Convention on Mercury (see sidebar above), a global agreement to reduce global mercury emissions.

Sub-Program 3.1.2: Waste Management

Sub-Program Description

This program addresses the risks to Canadians and their environment posed by the discharge and deposit of waste residues from the public and private sectors. The Waste Management Program prevents and manages the risks to the environment and human health from these residues by assessing environmental and human health threats posed by waste residues, and by developing and implementing prevention, reduction and elimination measures to deal with land-based and marine pollutants. Program delivery may include Contributions in support of Substances and Waste Management.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
15.4	14.6	0.8

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
121	116	5

Sub-Program 3.1.2: Waste Management			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Reduced releases to the environment of toxic substances and other substances of concern in waste	Cumulative percentage of known polychlorinated biphenyls (PCBs) in storage on September 5, 2008, that have been destroyed since the promulgation of the *PCB Regulations*	100% by 2012	100% as of May 2013 In December 2008, there were approximately 117 tonnes (t) of known PCBs in storage (including 6 t at a destruction facility). While the reporting system does not accommodate direct tracking from storage to destruction, the quantity of PCBs sent for destruction in 2010 and 2011 (128 and 83 t respectively) exceeded the amount reported to be in storage in 2008. From this, it can be concluded that all of the PCBs stored in 2008 have been destroyed, taking account of a lag time of 2 to 3 years to destruction.
	Annual quantity (in kilograms) of reported releases to the environment of PCBs	Less than 200 kg by 2012	1.15 kg of PCBs released in 2012, based on reports submitted by regulatees
Goal 3: Water Quality–Protect and enhance the quality of water so that it is clean, safe and secure for all Canadians and supports healthy ecosystems.	Change in percentage of wastewater systems achieving national effluent quality standards	Federal Sustainable Development Strategy (FSDS) target 3.7: Fresh Water Quality–Reduce risks associated with wastewater effluent by 2020 in collaboration with provinces and territories	Municipal Wastewater Treatment (interim indicator) The percentage of Canadians on municipal sewers with secondary wastewater treatment or better improved from 40% in 1983 to 69% in 2009.
	Reduction in loading of the biological oxygen demand (BOD) matter and suspended solids		Beginning in 2013, the loading of BOD matter and suspended solids for all wastewater systems subject to the *Wastewater Systems Effluent Regulations* will be tracked, and a baseline for reporting will be established in 2015.
	Percentage of disposal site monitoring events that do not trigger site management action	FSDS target 3.9: Marine Water Quality–Prevent marine pollution from uncontrolled dumping at sea. Ensure that permitted disposal at sea is sustainable, such that 85% of disposal site monitoring events do not identify the need for site management action (such as site closure)	Between 2001 and 2011, the percentage of permitted disposal at sea sites requiring no management action has been above Environment Canada's target of 85%.

Performance Analysis and Lessons Learned

The Department's achievements and accomplishments over 2012–2013 with respect to waste management were as follows:

- Continued to draft regulations for products containing mercury, expected to be published in 2013. The regulations would prohibit the manufacture, import and sale of products containing mercury, with some exemptions for essential products for which there are no viable alternatives.
- Implemented an electronic data exchange system that allows environmental agencies in Canada, Mexico and the United States to electronically share export requests and consent documents for the movement of hazardous waste and hazardous recyclable material.
- Established the *Wastewater Systems Effluent Regulations* to achieve a minimum secondary wastewater treatment across the country and reduce the release of harmful substances (see sidebar: A World-Class Regulator). The standards align Canada with both the United States and the European Union and enhance coordination between Canada and the United States with respect to transboundary water quality.
- Continued its prevention of marine pollution, through active London Protocol involvement, which included a recognized leadership role at Scientific Group meetings and at the Meeting of Parties.
- Continued work with other countries to prevent marine pollution—including work on a global mechanism to control ocean fertilization and other possible marine geoengineering.
- Conducted a comprehensive review of the *Metal Mining Effluent Regulations* under the *Fisheries Act*, including consideration of expanding the regulations to include diamond and coal mines, strengthening release limits for many existing substances, and adding release limits for several new substances.
- Made progress towards introducing service timelines and improving the ability to renew permits under the *Disposal at Sea Regulations*; applicant guidance is being updated to reflect both the *Canadian Environmental Protection Act, 1999* (CEPA 1999) and the *Canadian Environmental Assessment Act* changes. Achievements also included meeting permit issuance service standards (91 permits, with 95% issued in less than 120 days) and Federal Sustainable Development Strategy standards for sustainable use of disposal sites under CEPA 1999 permits (93% not requiring management action to alter how sites are used).
- Continued to administer the *Antarctic Environmental Protection Act* and associated permitting system. Specifically, the Department reviewed and issued three permits within the regulated timeline; created new guidance for permit assessment that streamlines and clarifies permit review; and participated in the Antarctic Treaty System and engaged with Transport Canada on the development of the Polar Code for Ships Operating in Ice-Covered Waters. A plane crash in a remote area of Antarctica triggered the review of emergency procedures, roles and responsibilities.

A World-Class Regulator—Environment Canada at Work

In 2009, the federal government committed, through the Canadian Council of Ministers of the Environment's Canada-wide Strategy for the Management of Municipal Wastewater Effluent, to address untreated sewage released into Canadian waterways—over 150 billion litres of untreated and undertreated wastewater are released every year. In 2012–2013, Environment Canada established the *Wastewater Systems Effluent Regulations*.

Sub-Program 3.1.3: Environmental Emergencies

Sub-Program Description

This program provides information on and aims to reduce the frequency and consequences of spills and related environmental emergencies involving toxic and other hazardous substances. The Program conducts five major activities: Prevention–regulating chemical facilities to develop and implement environmental emergency plans; Preparedness–coordinating national and regional environmental emergency preparedness capabilities; Response–oversight of response actions taken by the responsible party or parties, the provision of scientific and technical advice on weather and sea state and the behaviour and effects of chemicals, sampling and analysis, countermeasures, sensitivity mapping, trajectory modelling, and operation of the 24/7 National Environmental Emergencies Centre in Ottawa,[21] Recovery– assessing the damage and providing advice to polluters on repairing an environment damaged by an environmental emergency; and Research and Development–the development of spill models, analysis methods, fate and behaviour algorithms, measurement and remote-sensing capabilities, decontamination protocols, and countermeasures used during incidents. Authority for the Program is based on the *Environmental Emergency Regulations* under the *Canadian Environmental Protection Act, 1999*, as well as sections 34–36 of the *Fisheries Act*. Program delivery may include Contributions in support of Substances and Waste Management.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
9.7	10.0	(0.3)

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
66	65	1

Sub-Program 3.1.3: Environmental Emergencies			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Regulatees are aware of and understand the requirements and obligations of the *Environmental Emergency Regulations*.	Percentage of facilities requiring environmental emergency plans that have them in place as required by the *Environmental Emergency Regulations*	100% by 2013–2014	98.5% as of March 31, 2013 2,556 facilities were required to have an environmental emergency plan; of these, 2,517 notified Environment Canada that they had implemented and tested the plan.
Reduced frequency of environmental emergencies in facilities subject to the *Environmental Emergency Regulations*	Percentage of facilities that have notified Environment Canada that they have an environmental emergency plan as required by the *Environmental Emergency Regulations* that have environmental emergencies	To be determined	0.40% in 2012–2013
Goal 6: Ecosystem/Habitat Conservation and Protection–Maintain productive and resilient ecosystems with the	Environmental emergencies tracking	Federal Sustainable Development Strategy target 6.5: Managing Threats to Ecosystems–Reduce	Options for an indicator are being assessed and will be reported at a later date.

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[21] The environmental emergency response function of this program has since been centralized in Montreal.

capacity to recover and adapt; and protect areas in ways that leave them unimpaired for present and future generations.		the frequency and consequences of environmental emergencies that affect Canada	

Performance Analysis and Lessons Learned

In 2012–2013, Environment Canada's performance in support of environmental emergencies includes the following highlights:

- Continued to assess the environmental emergencies hazardous properties of Chemicals Management Plan substances and substances with high spill rates to inform the future listing of new substances (under future amendments to the *Environmental Emergency Regulations*). Efforts and results demonstrate that compliance is enhanced by site visits and proactive outreach.
- The environmental emergency response functions are carried out by the National Environmental Emergencies Centre (NEEC) in Montreal. The NEEC received and responded to 15–25 pollution incident calls per day since its relocation to Montreal in July 2012 until the end of 2012–2013. Based on past experience, the Department is considering revising its system to manage the number and nature of emergency calls it receives and the science knowledge required to support responses.
- Developed the Environmental Emergency Response Operations Plan to redefine the operational emergency response roles and responsibilities of various departmental branches.
- Through a partnership with the Canadian Space Agency, successfully demonstrated how Radarsat-2 satellite imagery can be used to identify shoreline characteristics, coastal habitats and resources at risk—more than 14,000 km of Canadian Arctic coastline have been mapped.
- Continued to develop an environmental emergencies national Web-based mapping system to enable timely access to environmental geospatial data in support of decision making during planning, preparation and response to environmental emergencies.
- Implemented amendments to the *Environmental Emergency Regulations* that came into force in 2011. Under the Regulations, there are over 4,250 registered facilities, of which 2,550 require environmental emergency plans; over 98% of those have developed and implemented such plans. Work included sending reminders to and responding to over 2,000 enquiries from regulatees, and attending 30 compliance promotion events. These compliance promotion efforts contributed to reducing the frequency and consequences of environmental emergencies. Earlier engagement with stakeholders regarding changes to the requirements for plans could have increased understanding of the Department's role in emergency management.

Sub-Program 3.1.4: Contaminated Sites

Sub-Program Description

This program is primarily directed to Environment Canada's responsibilities in supporting the Federal Contaminated Sites Action Plan (FCSAP), a 15-year Government of Canada horizontal initiative that commenced in 2005 to address legacy contaminated sites owned by or the responsibility of the federal government (18 federal organizations are currently involved in this program, including Environment Canada as a custodian of sites for which it is responsible). Environment Canada's responsibilities include hosting the FCSAP Secretariat and providing expert advice to other federal custodians on the issue of ecological risk reduction. The Environment Canada FCSAP Secretariat also coordinates implementation of the Shared Sites Policy Framework. Also falling under this program are Environment Canada's responsibilities with respect to the Sydney Tar Ponds project, which include providing technical and scientific advice on environmental matters and enforcing legislation and regulations. As requested, the Program also supports senior management on key non-federal contaminated site files. Program delivery may include Contributions in support of Substances and Waste Management.

Performance information for all other departments and federal organizations that receive funding under FCSAP is included in EC's 2012–2013 DPR Supplementary Information Table on Horizontal Initiatives[xxvi].

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
9.5	9.6	(0.1)

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
47	51	(4)

Sub-Program 3.1.4: Contaminated Sites			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Reduced liability at higher-risk federal contaminated sites	Net change in total liability for all Class 1 and Class 2 Federal Contaminated Sites Action Plan (FCSAP) funded sites	To be determined	Increase of $77 million (from $2.296 billion in 2010–2011 to $2.373 billion in 2011–2012), mainly due to increases from more accurate cost estimates for the remediation of sites. 94% of FCSAP remediation expenditures for all Class 1 and Class 2 sites reduced liability ($372 million out of $397 million total remediation expenditures).
Reduced risk to the environment and human health from federal contaminated sites	Number and proportion of Class 1 and Class 2 Federal Contaminated Sites Action Plan (FCSAP) funded sites where risk reduction activities have been completed	470 (50% of funded sites) by 2015–2016	Risk reduction has been completed at 77 sites. The five-year target for this indicator is now 368 sites by 2015–2016 (revised in January 2012). As of 2012–2013, 77 sites were completed (20% of the target).

Performance Analysis and Lessons Learned

The Federal Contaminated Sites Action Plan (FCSAP) is now half way through its 15-year mandate (see sidebar: Remediating Contaminated Sites). Environment Canada acts as the FCSAP Secretariat, as an expert support department that provides advice and training to federal custodian departments, and also as a custodian responsible for managing its own inventory of sites.

Remediating Contaminated Sites

In 2012–2013, Phase II of the Federal Contaminated Sites Action Plan was launched. Representing an investment of over $1 billion over 3 years, Phase II will focus on remediation of the highest-priority sites—over 1,000 across the country—and assessment of some 1,650 sites under federal responsibility.

In these roles, the Department

- Supported custodian departments in the management of their contaminated sites, including
  - developing an online decision-making process to help federal custodians navigate the assessment and remediation of a contaminated site;
  - finalizing a site-closure reporting tool to provide consistent criteria and guidance for closing contaminated sites when the risk is found to be acceptable and no further work is required;

  - exploring options for better managing information about federal contaminated sites;
  - continuing to provide overall program administration, including planning and analysis, reporting on program performance, coordination of governance committee meetings; and
  - leading program communication with stakeholders.
- Provided technical advice and guidance to custodians on issues related to environmental matters, including ecological risks related to contaminated sites. Work included the development of important guidance documents, guidelines, tools, training and best management practices for the assessment and management of ecological risks.
- Completed 8 remediation projects and 20 assessment projects with respect to contaminated sites for which the Department is custodian—thus minimizing threats to Canadians and their environment from pollution. Experience reinforced that initiating projects early in the fiscal year is a key to success; it allows for the flexibility needed to address changing priorities and logistical challenges.

Other key accomplishments for the year include

- completion of a multi-year assessment project at a Mould Bay (High Arctic) property, work that required significant planning and coordination with multiple groups;
- coordination with First Nation groups on two projects that contributed to First Nation understanding of the Department's role in managing contaminated sites; and
- collaboration with Fisheries and Oceans Canada to advance remediation activities at three islands within the Îles de l'Estuaire National Wildlife Area.

Program 3.2: Climate Change and Clean Air

Sub-Programs for Program 3.2: Climate Change and Clean Air

- 3.2.1 Climate Change and Clean Air Regulatory Program
- 3.2.2 International Climate Change and Clean Air Partnerships
- 3.2.3 Environmental Technology

Program Description

Emissions of greenhouse gases and air pollutants threaten to adversely affect the health of Canadians, degrade the environment, exacerbate climate change and adversely affect the economy. This program aims to protect the health of Canadians, the state of the environment and the economy from the harmful effects of air pollutants and the impacts of greenhouse gas emissions through the development of regulations and other control measures to address greenhouse gas emissions and improve air quality, based on sound scientific and economic analysis, and emissions monitoring and reporting. It will involve continued collaboration with other governments and stakeholders; expert environmental science and technology advice, assessment, and program management in support of technology investment decisions, policy making and regulations; and cooperation with the United States to align greenhouse gas regulations as appropriate, reduce transboundary air pollution and advance the development of clean technologies. It will also involve continued participation in and contribution to international negotiations to address climate change and transboundary air pollution, as well as bilateral and multilateral processes that complement international negotiations or support Canada's positions and objectives in international negotiations.[22] Contributions in support of Climate Change and Clean Air are used as a component of this program.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
193.2	211.5	240.2	157.5	54.0

Note: The decrease from planned spending to actual spending is mainly due to unspent funding for Sustainable Development Technology Canada and the Clean Air Regulatory Agenda as well as implementing new streamlining and efficiency measures. The decreases were partially offset by funding received for fast start financing under the Copenhagen Accord received later in the year and funding received through Treasury Board central votes.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
748	661	87

Program 3.2: Climate Change and Clean Air			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Threats to Canadians, their health and their environment from air pollutants and greenhouse gas (GHG) emissions are minimized.	Canadian emissions of GHGs from targeted and/or regulated sources	Performance Measurement Framework target: Canada's national target is a 17% reduction from 2005 levels by 2020	Emissions from sectors covered by Environment Canada's sector-by-sector approach (changes from 2005 shown in brackets) All values are in megatonnes (Mt) of carbon dioxide equivalents (CO_2 eq). Data are for 2011, as reported in

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[22] This also involves continued participation in and contribution to international negotiations to address ozone-depleting substances.

			Canada's most recent National Inventory Report (published in 2013). Transportation: 170 Mt (increase of 1.2%) Electricity: 90 Mt (decrease of 26%) Oil and gas: 163 Mt (increase of 0.6%) Emissions-intensive and trade-exposed industries:[23] 78 Mt (decrease of 10%) In part due to announced federal and provincial measures, Canada is projected to reduce its emissions by 130 Mt in 2020 when compared to its initial projected business-as-usual GHG emissions in 2020.
	Canadian emissions of air pollutants from targeted sources Substances reported under this indicator: ▪ Industrial sources and mobile sources (reported separately): particulate matter less than 10µm (PM$_{10}$); sulfur oxides (SO$_x$); nitrogen oxides (NO$_x$); and volatile organic compounds (VOC) ▪ Industrial sources only: mercury (Hg) ▪ Mobile sources only: carbon monoxide (CO)	Annual decline in the 3-year moving average for all tracked substances for both sectors	Industrial (including Electricity Generation): PM$_{10}$ = 3% reduction (160,228 to 154,994) SO$_x$ = 11% reduction (1,383,049 to 1,229,591) NO$_x$ = 3% reduction (847,730 to 820,285) VOC = 2% increase (677,997 to 693,577) Hg = 18% reduction (3,855 to 3,165) Mobile: PM$_{10}$ = 2% reduction (68,611 to 67,258) SO$_x$ = 1% increase (94,459 to 94,981) NO$_x$ = 3% reduction (1,145,183 to 1,108,511) VOC = 4% reduction (510,349 to 490,431) CO = 2% reduction (6,622,419 to 6,479,560) Most recently reported values are for the period 2009 to 2011. Percentage changes are reported in comparison with the 2008 to 2010 period.
ⓐ Goal 2: Air Pollution–Minimize the threats to air quality so that the air Canadians breathe is clean and supports healthy ecosystems.	Air emissions indicators of sulphur oxides, nitrogen oxides, volatile organic compounds, particulate matter, carbon monoxide, and ammonia	Federal Sustainable Development Strategy target 2.1: Air Pollutants–Reduce air pollutants in order to maintain or improve air quality across the country and achieve the emission targets which are currently under	In 2010, air pollutant emissions were 22% to 60% lower than emission levels in 1990. Only ammonia (NH$_3$) emissions were higher than emission levels in 1990.
	Trends in air quality-related health outcomes[24]		Results to be reported by Health Canada in its DPR 2012–2013[xxvii].

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[23] Emissions-intensive trade-exposed industries include the following sectors: aluminum, base metals smelting, cement, pulp and paper, iron and steel, lime and gypsum, chemicals and fertilizers, potash, and iron ore pelletizing.

[24] This indicator is produced by Health Canada.

		development in consultations with provinces and stakeholders	

Performance Analysis and Lessons Learned

Science at Work—Monitoring Air Quality in the Oil Sands

The monitoring of air, water, land and biodiversity being undertaken by the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring has expanded on a number of fronts. In 2012–2013, the ambient air quality monitoring network has been expanded, with one new ecosystem monitoring site installed downwind of the oil sands region and three more in progress. Additional measurements are being undertaken to address data gaps, and spatial distribution of satellite observations for nitrogen dioxide and sulphur dioxide has been mapped. Ecosystem exposure monitoring is also under way to monitor the range and levels of airborne contaminants to which bird species are exposed. For ongoing information on monitoring activities and results, visit the new Canada–Alberta Oil Sands Environmental Monitoring Information Portal[xxviii] launched in 2013.

Highlights of accomplishments and activities include the following:

- Finalized and published regulations to reduce greenhouse gas (GHG) emissions from two key emitting sectors (transportation and electricity) and continued to work on the development of GHG regulatory approaches for other major-emitting sectors.
- Reached agreement by provincial and territorial Ministers of the Environment to move forward with the implementation of the new Air Quality Management System (AQMS).
    - Proceeded with the publication of the new Canadian Ambient Air Quality Standards for fine particulate matter and ozone in the *Canada Gazette*, Part I.
    - Conducted extensive multi-stakeholder consultations with other federal departments, provinces, territories, industry and non-governmental organizations in order to finalize base-level industrial emissions requirements (BLIERs) to reduce air pollutants from major industrial sources except coal-fired electricity generators and refineries. The Department also obtained agreement from Deputy Ministers of the Environment for the renewal of the National Air Pollution Surveillance (NAPS) program[25] Memorandum of Understanding between the federal, provincial and territorial governments. The Canada-wide NAPS agreement was signed by all parties in June 2013, and supports the implementation of the AQMS.
- Continued to deliver the Joint Canada–Alberta Implementation Plan for Oil Sands Monitoring. Results related to air quality measurements in the oil sands are publicly available through the new portal (see sidebar: Science at Work).
- Compiled and published both GHG and air pollutant inventories. Experience in 2012–2013 points to the benefits of early and ongoing engagement with provinces/territories and key stakeholders in the development of GHG and air pollutant regulatory approaches.

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[25] The National Air Pollution Surveillance program is an ambient air quality monitoring program led by Environment Canada. It focuses primarily on urban areas and is delivered under a cooperative agreement with provinces and territories. The program was first established in 1969 to implement sound approaches for measuring air quality across Canada under uniform data quality standards.

Sub-Program 3.2.1: Climate Change and Clean Air Regulatory Program

Sub-Program Description

This program is in place to develop sector-based approaches to regulating air pollutants and controlling greenhouse gas emissions and to promote science-based approaches to inform the development of new standards and regulations. Program activities focus on the reduction of emissions from the industrial, transportation and consumer and commercial products sectors, as well as addressing market mechanisms for emissions reduction. Air pollutants and greenhouse gas emissions pose considerable threats to the health and well-being of Canadians and have significant negative impacts on the environment, economy and quality of life. Consultations with industry, provincial governments, other federal departments, and other stakeholders are part of the continuous process to develop, update and implement effective standards and regulations.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
110.9	104.9	6.0

Note: The decrease from planned spending to actual spending and in FTEs is due to unspent funding for the Clean Air Regulatory Agenda as well as reductions stemming from implementing new streamlining and efficiency measures. The decrease is offset by funding received through Treasury Board central votes.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
694	611	83

Sub-Program 3.2.1: Climate Change and Clean Air Regulatory Program

Expected Results	Performance Indicators	Targets	Actual Results
Reduced emissions of air pollutants and GHGs from regulated and/or targeted sectors	Canadian industrial emissions of particulate matter 10 (PM_{10}); sulphur oxides (SO_x); nitrogen oxides (NO_x); volatile organic compounds (VOC) and mercury (Hg)	To be determined by the regulatory approach	PM_{10} = 154,994 t SO_x = 1,229,591 t NO_x = 820,285 t VOC = 693,577 t Hg = 3,165 t All values represent three-year averages for 2009 to 2011.
	Canadian transportation emissions of: particulate matter 10 (PM_{10}); nitrogen oxides (NO_x); volatile organic compounds (VOC) and carbon monoxide (CO)	To be determined by the regulatory approach	PM_{10} = 67,258 t SO_x = 94,981 t NO_x = 1,108,511 t VOC = 490,431 t CO = 6,479,560 t All values represent three-year averages for 2009 to 2011.

Performance Analysis and Lessons Learned

Highlights of the Department's 2012–2013 accomplishments and activities in support of this sub-program include the following:

In support of reducing greenhouse gas emissions

The Department realized key commitments in support of its sector-by-sector regulatory approach to reducing Canada's GHG emissions. Experience over the year highlights the importance of establishing coordinated, consistent mechanisms for ongoing engagement with provinces and stakeholders for each of the targeted sectors in the sector-by-sector approach to GHG regulations.

Accomplishments and progress include the following:

- Published the final *Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity Regulations*. The performance standard in these regulations will come into force in 2015 and is expected to result in a net cumulative reduction in GHG emissions of about 214 Mt over the period 2015 to 2035.
- Published proposed and final regulations for heavy-duty vehicle emissions for model years 2014 to 2018, and proposed regulations for passenger automobile and light-duty truck emissions for model years 2017 and beyond. The latter builds on the regulations already in place for model years 2011 to 2016 and would establish progressively more stringent annual fleet average GHG emission standards over the 2017 to 2025 model years. Both sets of regulations are harmonized with the standards of the United States.
- Continued to implement regulations to control volatile organic compounds (VOC) in consumer and commercial products. The Department also published a consultation document to solicit stakeholder views on VOC in certain products.
- Supported Transport Canada in implementing the International Maritime Organization's Energy Efficiency Design Index for maritime shipping through the publication of draft regulations released in July 2012.
- Progressed with the development of regulatory approaches for emissions-intensive trade-exposed industrial sectors. Experience points to the importance of discussing data needs early in the regulatory development process—and getting timely, current data for targeted sectors. Not all of the fine-grained data needed are readily available.
- Developed and submitted the National Greenhouse Gas Inventory to the United Nations Framework Convention on Climate Change.
- Co-authored, with Health Canada, a summary of the Canadian Smog Science Assessment[xxix], a comprehensively researched and independently peer-reviewed scientific evaluation of the formation and fate of smog in Canada and its impact on the health of Canadians and their environment.
- Progressed with GHG and aerosols monitoring, analysis, and modelling to characterize sources and sinks in Canada as well as climate impacts regionally and globally.
- Through Environment Canada's mercury science results, informed the development of the first Canadian Mercury Science Assessment (to be released by the Canadian Council of Ministers of the Environment in 2013–2014).

Did you know?

Canada's most recent and proposed regulations for GHG emissions from passenger automobiles and light-duty trucks are expected to result in a net cumulative reduction of carbon dioxide equivalent (CO_2e) in greenhouse gas emissions of about 162 Mt over the lifetime operation of all 2017 to 2025 model year vehicles in Canada.

In support of air quality

Collaboration with stakeholders over the year resulted in greater support for air quality regulatory and alternative instruments to reduce air emissions than might have been achieved otherwise. Similarly, contribution agreements complemented in-house science efforts and continue to be an important investment to build research capacity in Canada.

Highlights of performance and progress in support of air quality include the following:

- Finalized, in collaboration with the provinces/territories, the new Air Quality Management System, including an agreement to proceed with implementation.
- Continued to conduct research to improve air quality models by implementing an innovative analysis of model outputs and real-time observations, as well as to evaluate an air quality model by conducting intercomparison studies with other countries (in North America and in Europe).
- Consulted with stakeholders and developed instruments in 2012–2013 to implement base-level industrial emission requirements (BLIERs); these consultations will continue throughout 2013–2014. The Department finalized BLIERs for all sectors except coal-fired electricity generation and refineries; and regulations were drafted for cement production, natural gas-fired reciprocating engines and non-utility industrial boilers and heaters.
- Finalized and published in the *Canada Gazette*, Part I on May 25, 2013, the new Canadian Ambient Air Quality Standards for fine particulate matter ($PM_{2.5}$) and ozone pursuant to the *Canadian Environmental Protection Act, 1999*. The new standards are more protective than the previous Canada-wide standards. Work was also initiated to inform the development of ambient standards for sulphur dioxide and nitrogen dioxide.
- Published final regulations requiring an on-board diagnostic system in on-road heavy-duty vehicles to detect malfunctions affecting engines and air pollutant emissions, and finalized amendments to regulations for sulphur in diesel fuel to enable the implementation of the North American Emission Control Area for maritime shipping.
- Collaborated with provincial and territorial governments under the Canadian Council of Ministers of the Environment Mobile Sources Working Group to improve information sharing on transportation emissions.
- Submitted the Atmospheric Pollutant Emission Inventory to the Convention on Long-Range Transboundary Air Pollutant and the Canada–United States Air Quality Agreement. The National Pollutant Release Inventory is a key component of this inventory.

Did you know?

Environment Canada's air quality scientists, researchers and engineers work closely with many partners to advise on the management of air quality in Canada. In 2012–2013, Environment Canada air quality science

- informed the setting of the new Canadian Ambient Air Quality Standards for fine particulate matter ($PM_{2.5}$) and ozone;
- improved predictions of the impacts of projected base-level industrial emissions requirements and coal-fired generation of electricity regulations on air quality;
- informed the negotiations towards a global, legally binding agreement on mercury under the United Nations Environment Programme;
- advanced knowledge of the atmospheric fate of air pollutants, specifically relating to transboundary transport; and
- collaborated with Health Canada on its risk assessment for biodiesel production, distribution and use in Canada.

Sub-Program 3.2.2: International Climate Change and Clean Air Partnerships

Sub-Program Description

This program leads the development and implementation of bilateral and international agreements to address air pollutants and global greenhouse gas emissions, and coordinates Canada's policy, negotiating positions and participation in relevant international fora of global significance. Activities within this program include development of an Annex to the Canada–United States Air Quality Agreement to reduce transboundary flows of particulate matter; participation and ongoing implementation of the Montreal Protocol and the Convention on Long-range Transboundary Air Pollution in order to leverage global/transboundary action to reduce emissions of ozone-depleting substances, smog and acid rain; improved alignment, in cooperation with other departments, of international programs with domestic priorities, the North American Leaders' Summit; participation in the United Nations Framework Convention on Climate Change (UNFCCC) process and complementary international processes to negotiate a comprehensive, legally binding international climate change agreement; and participation in international partnerships that support Canada's key bilateral processes with key major economies (e.g. China) and our negotiating positions and objectives in the UNFCCC.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
33.9	47.7	(13.8)

Note: The increase from planned spending to actual spending is mainly due to funding received for fast start financing under the Copenhagen Accord received later in the year.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
38	37	1

Sub-Program 3.2.2: International Climate Change and Clean Air Partnerships			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
International negotiations and agreements on air pollutants and GHGs are proceeding in a direction consistent with Canadian priorities and interests.	Percentage of stated objectives to be achieved in international negotiations and/or agreements which were met or mostly met	50% of negotiations and 50% of agreements which were met or mostly met by 2013–2014	Negotiations: 81% in 2012–2013 Amongst the 6 streams of UNFCCC negotiations, 81% (on average) of Canada's objectives were met. When objectives were not met or partially met, it was due to external factors (e.g., lack of time to address the item, countries unable/unwilling to come to a decision). Agreements: 100% in 2012–2013 At the end of 2012, the UNFCCC was able to negotiate the Doha Climate Change Gateway, which builds upon the previously agreed to Durban Platform and satisfies Canada's overall agreement objectives and is fully consistent with Canada's negotiating mandate.

Performance Analysis and Lessons Learned

Highlights of accomplishments include the following:

- Continued ongoing international negotiations on the United Nations Framework Convention on Climate Change.
- Oversaw the successful delivery of the Government of Canada $1.2 billion fast start financing package, and directly delivered contributions of over $49 million in 2012–2013 in climate change support to developing countries.[26]
- Continued work to revise the Protocol to Abate Acidification, Eutrophication and Ground-level Ozone (the Gothenburg Protocol) under the UN/ECE Convention on Long-range Transboundary Air Pollution by participating in the 50th session of the Working Group on Strategies and Review and the 30th session of the Executive Body. The revised Protocol was adopted in April 2012, with revisions that will allow for Canada's possible future ratification.
- Concluded work under the Arctic Council Task Force on Short-Lived Climate Forcers (also referred to as short-lived climate pollutants or SLCPs) including contributing to recommendations to Ministers of the Arctic Council for the mitigation of SLCPs.
- Continued to participate and promote leadership in the Climate and Clean Air Coalition, which works to reduce SLCPs. Canada is a founding member, lead partner and a major financial contributor.[27]
- Continued work with the United States and Mexico to build further support for the North American proposal to phase down hydrofluorocarbons under the Montreal Protocol.
- Supported Transport Canada's work at the International Maritime Organization to address black carbon from marine shipping, and contributed to development of a definition and measurement method for black carbon as well the identification of potential technologies and control strategies.
- Through the Canada–United States Air Quality Agreement (AQA), continued to cooperate with the United States to reduce the transboundary movement of air pollutants, particularly those that cause acid rain and smog. More specifically, the two countries prepared and published the 2012 biennial progress report. Environment Canada also hosted the annual meeting of the Canada–United States Air Quality Committee (administered work and reviewed implementation progress), and continued the ongoing scientific and technical foundation work to support consideration of adding the Particulate Matter Annex to the Canada–United States AQA.
- Hosted the biannual Global Methane Expo in Vancouver (March 2012) with 425 participants from 41 countries. Canada showcased Canadian technology in methane emission reduction practices in five sectors: agriculture, coal mining, waste water, municipal solid waste, and oil and gas.

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[26] Environment Canada's contribution of over $49 million in 2012–2013 was split across different programs under Strategic Outcomes 2 and 3.

[27] Canada contributed $13 million to support the Climate Change and Clean Air Coallition, in addition to $7 million committed to bilateral projects that support the long-term mitigation of SLCPs in developing countries.

Sub-Program 3.2.3: Environmental Technology

Sub-Program Description

This program delivers expert environmental science and technology advice, assessment, and program management in support of the Government of Canada's clean air and greenhouse gas (GHG) technology investment decisions, policy making and regulations. Key activities include overseeing the operations of Sustainable Development Technology Canada (SDTC) and a range of other Science and Technology programs; providing expert advice and assessment to advance clean technologies to help ensure government priorities such as clean air, climate change and green infrastructure are addressed.

Financial Resources ($ millions)

Planned Spending 2012–2013	Actual Spending 2012–2013	Difference 2012–2013
66.7	4.9	61.8

Note: The decrease from planned spending to actual spending is mainly due to unspent funding for Sustainable Development Technology Canada.

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
15	13	2

Sub-Program 3.2.3: Environmental Technology			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Reduced emissions from the implementation of new environmental technologies	Annual reduction of emissions of GHGs (carbon dioxide equivalents) resulting from environmental technologies supported	12.5 Mt by 2015	1.22 Mt of GHG reductions in 2012
	Annual reduction of emissions of air pollutants (criteria air contaminants) resulting from environmental technologies supported	By 2015: 21.8 Kt nitrogen oxides (NO_x) 0.8 Kt sulphur oxides (SO_x) 1.36 Kt particulate matter (PM) 2.3 Kt volatile organic compounds (VOC) 0.9 Kt carbon monoxide (CO)	16 t of total air contaminant reductions in 2012 Amounts of individual substances are not available at this time.

Performance Analysis and Lessons Learned

Highlights of the Department's achievements in 2012–2013 include the following:

- Provided analysis and assessments of the environmental impacts of new and emerging technologies (for example, carbon capture and storage technologies and renewable energy technologies) to inform government decision making.
- Co-led, with Natural Resources Canada, the negotiation and conclusion of a new funding agreement ($40 million announced in Budget 2011) with Sustainable Development Technology Canada (SDTC) to support clean-technology projects that address climate change and clean air.

- Participated in a range of federal technology programs to promote their alignment with the Department's priorities for reducing GHG and air pollutant emissions and to maximize their environmental benefits. In 2012–2013, supported technologies delivered annual reductions in GHGs of 1.22 Mt and air pollutants of 16 t. Programs included SDTC, the Canadian Environmental Technology Advancement Centres, the Green Municipal Fund, the Canadian Environmental Technology Verification (ETV) program, and the United States–Canada Clean Energy Dialogue Research and Development and Energy Efficiency Working Group.
- Continued to lead development of the ETV standard and finalized two new ETV protocols.
- Continued ongoing collaboration with the Bureau de normalisation du Québec (BNQ), towards the development of a memorandum of understanding amongst the BNQ, the GLOBE Foundation and the Quebec Ministère du Développement durable, de l'Environnement, de la Faune et des Parcs, to align BNQ verification procedures with ETV on waste water technologies. Discussions also continued on harmonizing the ETV process in all sectors.

Programs
3.3: Compliance Promotion and Enforcement–Pollution
1.4: Compliance Promotion and Enforcement–Wildlife

Program Descriptions

Program 3.3 (Pollution): This program contributes to minimizing damages and threats to the natural environment and biodiversity, through the promotion and enforcement of legislation administered by Environment Canada, supported by sound scientific analysis and advice. Program actions focus on pollution, including toxic substances, their release to air, water or land, and the import and export of hazardous waste that present a risk to the environment and/or human health. The Program maintains a contingent of compliance promotion and enforcement officers. Compliance promotion officers provide information to regulatees on legislative requirements, the environmental benefits of compliance and the potential penalties of non-compliance. Enforcement officers' activities include gathering intelligence, conducting inspections to verify compliance with laws and regulations, and pursuing investigations to take appropriate enforcement measures against offenders. The Program also performs compliance analysis in order to provide continuous feedback on program planning and results.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
45.5	45.5	47.3	41.7	3.8

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
391	346	45

Note: The decrease from planned FTEs to actual FTEs is due to the realignment of environmental assessment activities with the Sustainable Ecosystems Program.

Program 3.3: Compliance Promotion and Enforcement–Pollution			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Compliance with pollution laws and regulations administered by Environment Canada	Compliance with regulatory requirements for selected regulations reported under this indicator: *Dry Cleaning Regulations* (initial pilot; other regulations to be added)[28]	*Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations*: 10% increase of compliance in 2015–2016 relative to the 2012–2013 baseline	51% in 2012–2013 (with a percentage of error of 5.51%) This value is the national environmental compliance rate for the *Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations* in 2012–2013. Beginning in 2013–2014, the Department will implement compliance strategies to increase compliance in the dry cleaning sector, taking into consideration the fact that ownership changes are very frequent in that sector. In 2014–2015, the national rate of environmental compliance with the dry cleaning regulations will be measured again based on the same statistical methodology used in 2012–2013 to determine to what extent the compliance strategies have influenced the compliance rate.

Program 1.4 (Wildlife): This program serves to conserve and protect the natural environment through compliance promotion and enforcement, supported by sound scientific analysis and advice, of the following wildlife-related legislation administered by Environment Canada: the *Species at Risk Act* (SARA), the *Migratory Birds Convention Act, 1994*, the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act* (WAPPRIITA), and the *Canada Wildlife Act*. Measures to promote compliance include communication and publication of information, education, and consultation with parties affected by these statutes. The Program maintains a contingent of enforcement officers, whose actions focus on verifying conformity with laws, regulations and permits pertaining to wildlife, through several activities—which include gathering intelligence, conducting inspections and pursuing investigations to take appropriate enforcement measures against alleged offenders. These actions ensure that damages and threats to biodiversity are reduced for the benefit of Canadians and the international community.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
17.2	17.2	17.9	16.7	0.5

Human Resources (Full-Time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
140	133	7

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[28] A statistically valid methodology for the measurement of compliance rates is being pilot-tested using the *Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations*. The selection of the Regulations for the pilot was based on several criteria related to the feasibility of calculating valid compliance rates. On completion of the pilot, other regulations will be considered for inclusion in this indicator.

Program 1.4: Compliance Promotion and Enforcement–Wildlife			
Expected Results	**Performance Indicators**	**Targets**	**Actual Results**
Compliance with wildlife laws and regulations administered by Environment Canada	Percentage of inspected regulated community compliant with regulatory requirements under the *Migratory Birds Convention Act, 1994*	90% by 2012–2013	93% in 2012–2013

Performance Analysis and Lessons Learned

In 2012–2013, Environment Canada met its planned achievements and progress for these programs. Highlights of accomplishments and activities include the following:

- Conducted approximately 8,700 inspections on regulations under the *Canadian Environmental Protection Act, 1999* (CEPA 1999) and the *Fisheries Act*. Over 7,600 inspections were conducted under the *Species at Risk Act* (SARA), the *Canada Wildlife Act*, the *Migratory Birds Convention Act, 1994*, and the *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act, 1994* (WAPPRIITA). Collectively, these inspections identified over 5,300 violations. The Department continued its ongoing reporting of pollution-related activities in accordance with various acts (such as CEPA 1999), and wildlife-related activities in accordance with SARA and WAPPRIITA.
- Partnered with First Nation land managers to carry out compliance promotion activities (see sidebar: Partnership in Action).
- Carried out over 59,000 compliance promotion activities in 2012–2013, most of which promoted 9 high-priority risk instruments related to 2 acts: CEPA 1999 (specifically, the Chemicals Management Plan and the Clean Air Regulatory Agenda), and the *Fisheries Act*.

Partnerships in Action—Working with First Nations Land Managers

Manitoba Uske (Lands) Annual Meeting, The Pas, Manitoba, October 31, 2012
Environment Canada participated in the annual meeting for First Nations land managers in Manitoba. Compliance promotion officers presented information on pollution prevention provisions under the *Fisheries Act* and CEPA Regulations to 16 Aboriginal land managers. The multi-instrument session covered the *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations* and the *Wastewater Effluent Systems Regulations*, the *Federal Halocarbon Regulations, 2003* and the *Environmental Emergency Regulations*.

Environment Canada developed and implemented regulatory compliance promotion strategies and plans for both the *Migratory Birds Regulations* amendments (hunting) and SARA listings, and partnered with others (e.g., the Canada Border Services Agency, and Foreign Affairs and International Trade Canada) to deliver wildlife compliance promotion—and with the Canadian Wildlife Federation[xxx] to deliver education and outreach (Hinterland Who's Who).

Other accomplishments and activities include the following:

- Undertook ongoing monitoring work in the oil sands.
- Participated in 23 successful prosecutions in wildlife and pollution enforcement across Canada according to the Enforcement Notifications[xxxi].
- Began work on a model for aggregating, factoring and valuation of environmental damage, with vehicle engine regulations as the first priority.
- Adjusted the documentation and ways to intervene as part of implementing the *Environmental Enforcement Act*, to reflect how the Act affects operational intervention.
- Implemented the Pilot Project on Dry Cleaning Regulations—national compliance rate of 51% (+/- 5.51%).

Did you know?

Under an agreement with INTERPOL, the international organization comprising some 190 member countries that work together to fight crime worldwide, Environment Canada began delivering a customized wildlife officer training course designed to help fight illegal trade in endangered species, with a focus on Africa. A pilot course was delivered to officers from 11 countries in 2012–2013, with additional training planned for the future.

Internal Services

Categories for the Internal Services Program

Governance and Management Support (includes Management and Oversight, Communications and Legal)	Resource Management Services (includes Human Resources Management, Financial Management, Information Management, Information Technology, and Travel and Other Administrative Services)	Asset Management Services (includes Real Property, Materiel and Acquisition)

Program Description

Internal Services are groups of related activities and resources that are administered to support the needs of programs and other corporate obligations of an organization. These groups are: Management and Oversight Services; Communications Services; Legal Services; Human Resources Management Services; Financial Management Services; Information Management Services; Information Technology Services; Real Property Services; Materiel Services; Acquisition Services; and Travel and Other Administrative Services. Internal Services include only those activities and resources that apply across an organization and not to those provided specifically to a program.

Financial Resources ($ millions)

Total Budgetary Expenditures (Main Estimates) 2012–2013	Planned Spending 2012–2013	Total Authorities (available for use) 2012–2013	Actual Spending (authorities used) 2012–2013	Difference 2012–2013
172.2	172.2	210.5	203.4	(31.2)

Note: The increase from 2012–2013 planned spending to actual spending is due to internal realignments of funding to account for the transfer of responsibilities to Shared Services Canada.

Human Resources (Full-time Equivalent–FTE)

Planned 2012–2013	Actual 2012–2013	Difference 2012–2013
1,400	1,494	(94)

Performance Analysis and Lessons Learned

To support the Department in meeting its stewardship mandate and the performance requirements of the Management, Resources and Results Structure Policy, the Management Accountability Framework and specific program priorities, both policy and management priorities were developed.

In 2012–2013, the Department delivered on its internal services commitments. Highlights of accomplishments include the following:

Open Data for Open Government

- Carried out a pilot project for Environment Canada's contribution to the Open Data Portal[xxxii].
- Consistent with the broader open data initiative of the federal government, finalized and launched (jointly with the Government of Alberta) the Canada–Alberta Oil Sands Environmental Monitoring Information Portal[xxxiii].

Innovative Human Resources and Financial Services Deliveries

Environment Canada completed implementation of its new service delivery models. Completing implementation of the new models provided new opportunities for initiatives to improve the efficiency, flexibility and accountability for human resources and financial services functions within the Department, including

- Developing greater linkages between disciplines.
- Introducing leadership within the Corporate Resourcing, Employment Equity and Official Languages functions.
- Creating a centralized Work Force Adjustment Team to streamline processes.
- Refocusing functions and procedures within the Strategic Human Resources Planning, Performance Measurement, Integration and Systems Directorate to include the management of innovative corporate initiatives—including Common Human Resources Business Processes and Modernization of Information Management.
- Implementing the new financial service delivery model and organizational structure to deliver mandatory/core financial services.
- Implementing a streamlined model for Financial Services review, approval and support for Grants and Contributions and other financial arrangements.
- Attaining approval for and implemented the Integrated Departmental Investment Plan.
- Continuing to build capacity through the implementation of the Financial Management Framework.
- Employing a structured and coordinated approach to improving financial information, reports and tools.

Improvement of Service and Accountability through Relevant, Credible and Practical Audit and Evaluation

- Maintained strong and independent internal audit and evaluation functions that supported the Deputy Minister in his role as Accounting Officer and in results management. This year, the Department implemented a new periodic process to monitor the progress of programs in response to the recommendations of previous audit and evaluation reports. Through this active monitoring, the Department significantly reduced both the number of outstanding recommendations as well as the average time to successfully address the recommendations.

Reengineering Management and Technology Operations to Support the Shared Services Canada Model

- Established a memorandum of understanding to map out services, roles and responsibilities to be offered through Shared Services Canada (SSC), in line with similar arrangements for 42 other partnering departments and agencies. This followed the establishment of the Corporate Services Branch (2011–2012) and the related integration of responsibility for information management and information technology, assets management, contracting, procurement and security. Experience in 2012–2013 demonstrated that, as SSC transforms the way the Government of Canada delivers information technology services (including networks, data centres and email) to government departments, working closely and collaboratively with SSC is essential to ensure business continuity, maintain existing service levels and foster good working relationships.
- Completed and progressed on a number of fronts in support of its arrangements with SSC—designed to promote efficiency, economies of scale and consistency in service delivery: the Environment Canada model for relations with SSC is seen as a model for government-wide consideration. The Department
  - Put in place project management and governance for the acquisition and set-up of a new supercomputer.
  - Established a joint Environment Canada and SSC community of interest and process for sharing information and insights on plans, initiatives and critical impacted areas.
  - Created and implemented processes and mechanisms to communicate and coordinate departmental priorities with SSC.

Advancing Government Policy Priorities with Canadian and International Partners

Environment Canada continued to work with partners in Canada and abroad to advance government-wide priorities.

- As the federal lead on climate change adaptation, Environment Canada continued to focus on better coordinating federal efforts related to adaptation and advancing the Federal Adaptation Policy Framework.
- The Department continued to engage with other federal government departments and external stakeholders to advance the development of the National Conservation Plan.
- Accomplishments on the international front include the following. The Department
    - Supported the Global Commerce Strategy to ensure that trade and environment are mutually supportive.
    - Contributed to Canada's chairing of the Arctic Council on issues of sustainable development and environmental protection.
    - Followed up on the United Nations Conference on Sustainable Development (Rio+20 summit), in particular issues related to the strengthening of the United Nations Environment Programme.
    - Strengthened bilateral relations with other countries, including in emerging economies in Asia and the Americas.
    - Continued to enhance ties with the United States and Mexico through the Commission for Environmental Cooperation. The Department began preparation of Canada's 6th National Communication and 1st Biennial Report to the United Nations Framework Convention on Climate Change.

Meeting Requirements for Departmental Business Continuity and Security Priorities

- Completed a revision of the Departmental Business Continuity Plan, approved in December 2012; this initiated a three-year revision cycle to the Business Continuity program to guide the review of business impact analyses and the further development of regional and site-level plans.
- As part of a phased approach to implementing the Departmental Security Plan, introduced performance measurement of security services, further developed the security policy suite, initiated the modernization of building access control systems and developed and implemented an on–line security awareness program, reaching 92% of Environment Canada employees through both classroom sessions and on–line quizzes.

Improving Communications Strategies, Products and Innovative Tools

- Tailored a number of strategies and products to support several high-profile announcements highlighting the Department's progress in meeting its mandate in a number of areas, including water and air quality, conservation, and domestic and international actions to reduce greenhouse gas emissions.
- Developed and implemented a series of innovative electronic tools to standardize business practices and effectively balance operational needs and strategic communications requirements in areas including media relations, product development, as well as activities in support of planning, tracking and reporting.

Greening Government Operations

Environment Canada is a participant in the Federal Sustainable Development Strategy (FSDS) and contributes to Greening Government Operations targets through the Internal Services program. The Department contributes to the following target areas of theme IV of the FSDS through

- green buildings
- green procurement
- e-waste, managed print, paper consumption and green meetings, and
- greenhouse gas emissions

For additional details on Environment Canada's Greening Government Operations activities, please see this website.[xxxiv]

SECTION III: SUPPLEMENTARY INFORMATION

Financial Statements Highlights

The financial highlights presented on the following pages offer an overview of Environment Canada's Statement of Operations and Departmental Net Financial Position and Statement of Financial Position. The detailed Unaudited Departmental Financial Statements can be found on Environment Canada's website.[xxxv]

Condensed Statement of Operations and Departmental Net Financial Position

Condensed Statement of Operations and Departmental Net Financial Position (Unaudited)
For the Year Ended March 31, 2013
($ millions)

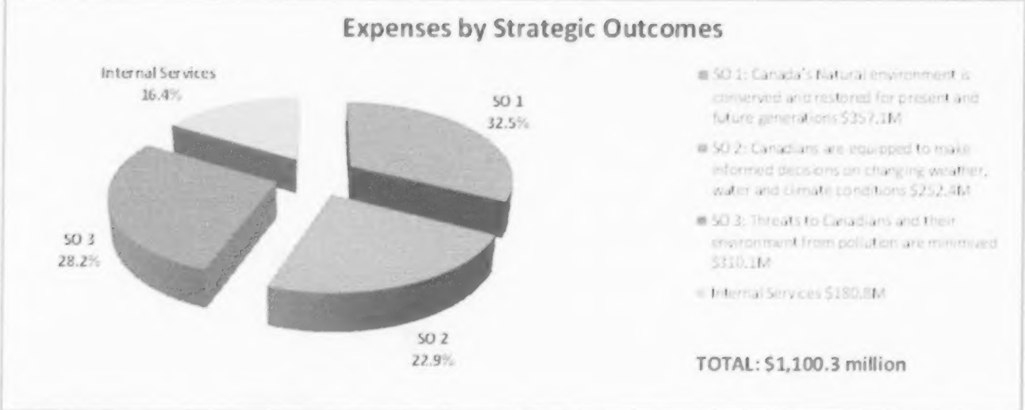
	2012–2013 Planned Results	2012–2013 Actual	2011–2012 Actual	$ Change (2012–2013 Planned vs. Actual)	$ Change (2012–2013 Actual vs. 2011–2012 Actual)
Total expenses	1,145.3	1,100.3	1,139.4	45.0	(39.1)
Total revenues	67.8	84.9	60.0	(17.1)	24.9
Net cost of operations before government funding and transfers[1]	1,077.5	1,015.4	1,109.7	62.1	(94.3)
Departmental net financial position	135.6	143.6	93.6	(7.8)	50.0

[1] The net cost of operations before government funding and transfer, in 2011–2012, includes $31.5 million in expenses and $1.3 million in revenues deemed to have been recorded by Shared Services Canada (SSC).

Expenses by Strategic Outcomes

Total departmental expenses by Strategic Outcomes amounted to $1,100.3 million for 2012–2013. The decrease of $39.1 million or 3.4%, from $1,139.4 million in 2011–2012 to $1,100.3 million in the current fiscal year is mostly due to

- The implementation of new streamlining and efficiency measures to reduce operating and program costs in order to meet the Canada's Economic Action Plan objectives;
- Increased responsibilities transferred to Shared Services Canada; and,
- New fast start financing under the Copenhagen Accord as well as an offsetting decrease in Nature Conservancy of Canada funding contributed to a $29.8 million transfer payment increase.

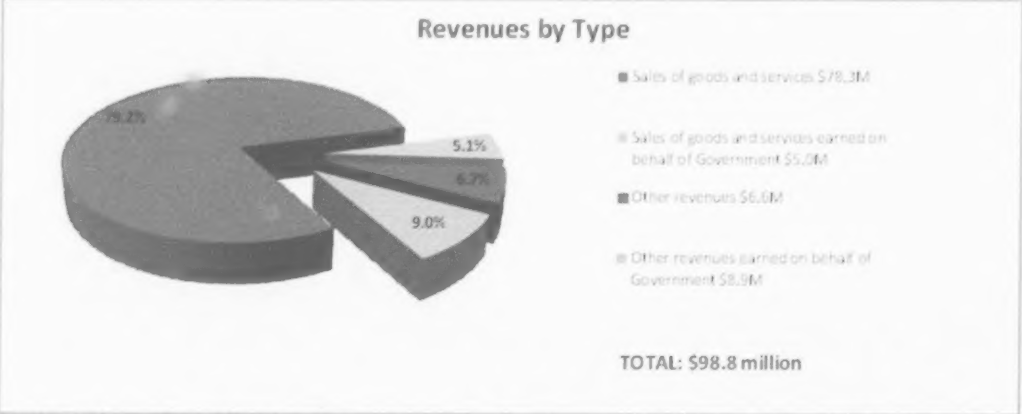


See Note 15 of the Departmental Financial Statements for further breakdown of expenditures–Segmented information by Standard Objects and Strategic Outcomes.

Revenues by Type

Total revenues amounted to $84.9 million for 2012–2013. This amount excludes $13.9 million of revenues earned on behalf of government. The majority of the revenue in 2012–2013 is derived from Environment Canada (Meteorological Service of Canada) under Strategic Outcome 2 and comprises items such as ocean disposal permit applications, meteorological services, hydraulics laboratory and ocean disposal monitoring fees.

The increase of $24.9 million or 41.5% in Environment Canada's net revenues in 2012–2013 is due to Oil Sands Monitoring Plan activities and revenues recorded from joint projects and cost-sharing agreements, mainly attributable to a project for the Peninsula Harbour Sediment Remediation (agreement between the Government of Canada and the Province of Ontario, Great Lakes Area).



See Note 15 of the Departmental Financial Statements for further breakdown of revenues–Segmented information by type and Strategic Outcomes.

Condensed Statement of Financial Position

Condensed Statement of Financial Position (Unaudited) As at March 31, 2013 ($ millions)			
	2012–2013	**2011–2012**	**$ Change**
Total net liabilities	419.2	450.0	(30.8)
Total net financial assets	163.7	156.5	7.2
Departmental net debt	255.5	293.5	(38.0)
Total non-financial assets	399.1	387.2	11.9
Departmental net financial position	143.6	93.7	49.9

Liabilities by Type

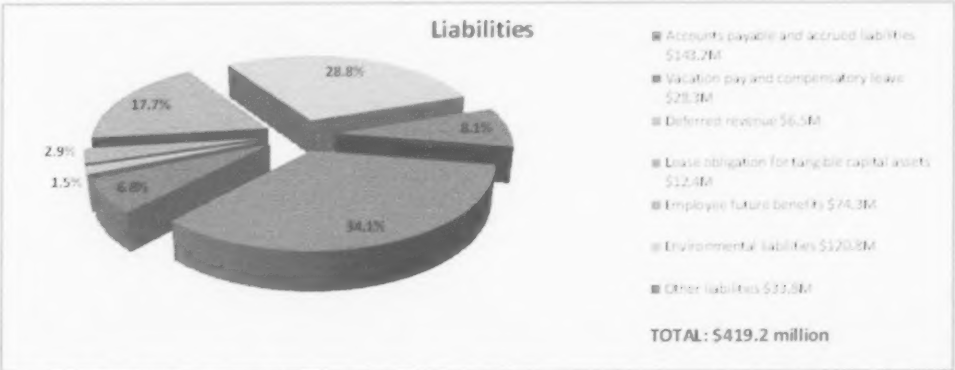
Total liabilities were $419.2 million at the end of 2012–2013. This represents a decrease of $30.8 million or 6.8% from the previous year's total liabilities of $450.0 million. The accounts payable and accrued liabilities and environmental liabilities represent the largest component of liabilities at $264.0 million (63.0% of total liabilities) in 2012–2013.

The decrease in Environment Canada's total net liabilities valuation is mainly attributable to

- An overall reduction of accrued liabilities, including a $24.0 million reduction related to a payment to Nature Conservancy of Canada and a $12.0 million reduction related to the disclosure of the obligation for termination benefits associated with the estimated workforce adjustment costs; and
- A decrease of $23.7 million in liabilities related to employee future benefits explained by the abolition of severance pay in some classifications.

These reductions are offset by

- An increase of the accounts payable to external parties by $17.1 million; and
- An increase of $13.2 million in environmental liabilities due to new liabilities of $12.8 million related to the Mould Bay site.



See Notes 4 to 8 and Note 12 of the Departmental Financial Statements for more details–Accounts payable and accrued liabilities; Deferred revenue; Lease obligation for tangible capital assets; Employee future benefits; Environmental and contingent liabilities; Contractual obligations.

Assets by Type

Total assets, valued at $562.8 million, have increased by $19.1 million or 3.5% in the 2012–2013 fiscal year. The tangible capital assets continue to represent the largest component of assets, at $389.5 million (69.0% of total assets) in 2012–2013.

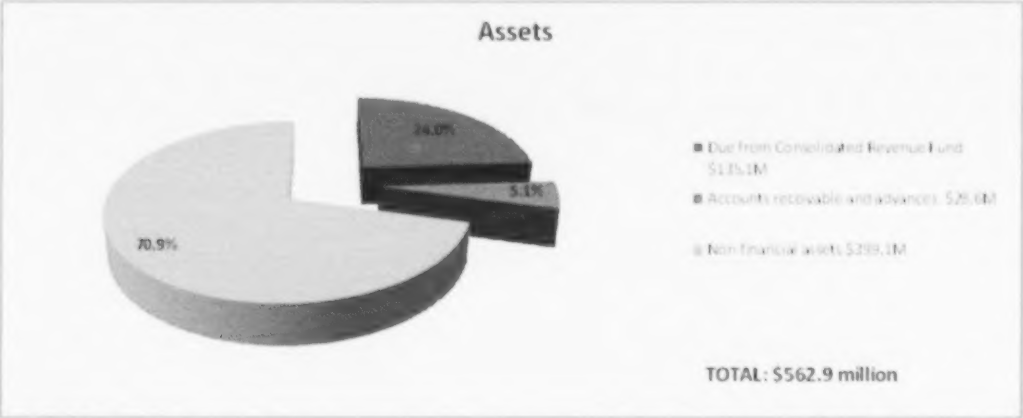
The increase in Environment Canada's total net assets valuation is mainly attributable to the following.

Financial Assets

- A decrease of $6.1 million due from the Consolidated Revenue Fund; and
- An increase of $13.7 million in accounts receivable and advances mainly due to the invoicing for the Oil Sands Monitoring Plan.

Non-Financial Assets

- An increase of $4.0 million of the inventory; and
- An increase of $8.2 million in tangible capital assets; the major acquisitions were for machinery and equipment and assets under construction.



See Notes 9 to 11 of the Departmental Financial Statements for more details – Accounts receivable and advances; Inventory; Tangible Capital Assets.

Financial Statements

Environment Canada's unaudited financial statements are prepared in accordance with Treasury Board Secretariat policies that are based on Canadian public sector accounting standards and, therefore, are different from appropriation-based reporting, which is reflected in Sections I and II of this report. Sections I and II are prepared on a modified cash basis, and not an accrual basis. A reconciliation between Parliamentary Appropriations used (*modified cash basis*) and the Net Cost of Operations (*accrual basis*) is set out in Note 2 and 3 of Environment Canada's Unaudited Financial Statements at this website.[xxxvi]

Supplementary Information Tables

The following tables are provided electronically at Environment Canada's website[xxxvii] as part of the Department's 2012–2013 DPR:[xxxviii]

- Details on Transfer Payment Programs
- Greening Government Operations
- Horizontal Initiatives
- Internal Audits and Evaluations
- Responses to Parliamentary Committees and External Audits
- Sources of Respendable and Non-Respendable Revenue
- Status Report on Projects Operating with Specific TB Approval
- Up-front Multi-year Funding
- User Fees Reporting

Tax Expenditures and Evaluations Report

The tax system can be used to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. The Department of Finance publishes cost estimates and projections for these measures annually in the *Tax Expenditures and Evaluations*[xxxix] publication. The tax measures presented in the *Tax Expenditures and Evaluations* publication are the sole responsibility of the Minister of Finance.

SECTION IV: OTHER ITEMS OF INTEREST

Organizational Contact Information

For questions or comments on Environment Canada's Departmental Performance Report, please contact:

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Director General
Corporate Management Directorate, Finance Branch
Environment Canada
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Additional Information

National Round Table on the Environment and the Economy

The Government of Canada has announced its intention to dissolve the National Roundtable on the Environment and the Economy (NRTEE) by April 1, 2013. The dissolution of NRTEE was approved through the adoption (Royal Assent) of the *Jobs, Growth and Long-term Prosperity Act* (Bill C-38) on June 29, 2012.

The NRTEE has prepared its 2012–2013 financial statements on the liquidation basis of accounting given the discontinuance of all NRTEE operations at March 31, 2013. Any liabilities that remain unsatisfied upon liquidation of the NRTEE become the liabilities of Her Majesty in Right of Canada.

The final financial statements for the organization are available under the Departmental Unaudited Financial Statements section of the Department's website[xl].

ENDNOTES

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[i] Acts and regulations: www.ec.gc.ca/default.asp?lang=En&n=48D356C1-1

[ii] Google Alerts: www.google.org/publicalerts

[iii] Open Data Portal: www.data.gc.ca

[iv] Canada–Alberta Oil Sands Environmental Monitoring Information Portal: www.jointoilsandsmonitoring.ca/

[v] CESI website: www.ec.gc.ca/indicateurs-indicators/

[vi] A Clean and Healthy Environment: www.tbs-sct.gc.ca/ems-sgd/wgf-ipp-eng.asp

[vii] A Clean and Healthy Environment: www.tbs-sct.gc.ca/ems-sgd/wgf-ipp-eng.asp

[viii] A Clean and Healthy Environment: www.tbs-sct.gc.ca/ems-sgd/wgf-ipp-eng.asp

[ix] Public Accounts of Canada 2013 (Volume II): www.tpsgc-pwgsc.gc.ca/recgen/cpc-pac/index-eng.html

[x] *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals:* www.ceaa.gc.ca/default.asp?lang=En&n=B3186435-1

[xi] Environment Canada website: www.ec.gc.ca/default.asp?lang=En&n=31D9FF32-1

[xii] Environment Canada website: www.ec.gc.ca/dd-sd/default.asp?lang=En&n=C2844D2D-1

[xiii] Canada-Alberta Oil Sands Environmental Monitoring Information Portal: www.jointoilsandsmonitoring.ca/

[xiv] The State of Canada's Birds: www.stateofcanadasbirds.org/

[xv] New information portal: www.jointoilsandsmonitoring.ca/

[xvi] Information portal: www.jointoilsandsmonitoring.ca/

[xvii] Canadian Biodiversity: Ecosystem Status and Trends 2010 Report: www.biodivcanada.ca/default.asp?lang=En&n=6F7EB059-1&wsdoc=A519F000-8427-4F8C-9521-8A95AE287753

[xviii] Google Alert: www.google.org/publicalerts

[xix] Canadian Centre for Climate Modelling and Analysis website: www.ec.gc.ca/ccmac-cccma/

[xx] Canadian Climate Change Scenarios Network website: www.cccsn.ec.gc.ca/?page=main&lang=en

[xxi] Environment Canada Adjusted and Homogenized Canadian Climate Data website: www.ec.gc.ca/dccha-ahccd/

[xxii] Climate.Weather.gc.ca website: www.climate.weather.gc.ca/

[xxiii] Ice Navigation in Canadian Waters: www.ccg-gcc.gc.ca/Ice_home/Ice_Publications/Ice-Navigation-in-Canadian-Waters

[xxiv] Arctic Mariners Routing Guide: www.geoportal.gc.ca/eng/Maps/Viewer/5

[xxv] Health Canada's DPR 2012–2013: www.hc-sc.gc.ca/ahc-asc/performance/estim-previs/dpr-rmr/index-eng.php

[xxvi] EC's 2012–2013 DPR Supplementary Information Table on Horizontal Initiatives: www.ec.gc.ca/default.asp?lang=En&n=31D9FF32-1

[xxvii] Health Canada's DPR 2012–2013: www.hc-sc.gc.ca/ahc-asc/performance/estim-previs/dpr-rmr/index-eng.php

[xxviii] Canada–Alberta Oil Sands Environmental Monitoring Information Portal: www.jointoilsandsmonitoring.ca/

[xxix] Canadian Smog Science Assessment: www.ec.gc.ca/Publications/default.asp?lang=En&xml=AD024B6B-A18B-408D-ACA2-59B1B4E04863

[xxx] Canadian Wildlife Federation: www.hww.ca/en/index.html

[xxxi] Enforcement Notifications: www.ec.gc.ca/alef-ewe/default.asp?lang=En&n=8F711F37-1

[xxxii] Open Data Portal: www.data.gc.ca/

[xxxiii] Canada–Alberta Oil Sands Environmental Monitoring Information Portal: www.jointoilsandsmonitoring.ca/

[xxxiv] Greening Government Operations website: www.ec.gc.ca/default.asp?lang=En&n=31D9FF32-1

[xxxv] Environment Canada website: www.ec.gc.ca/default.asp?lang=En&n=31D9FF32-1

[xxxvi] Environment Canada website: www.ec.gc.ca/default.asp?lang=En&n=31D9FF32-1

[xxxvii] Environment Canada website: www.ec.gc.ca/default.asp?lang=En&n=31D9FF32-1

[xxxviii] Department's (2012–2013) DPR: www.ec.gc.ca/default.asp?lang=En&n=31D9FF32-1

[xxxix] Tax Expenditures and Evaluations publication: www.fin.gc.ca/purl/taxexp-eng.asp

[xl] Environment Canada website: www.ec.gc.ca/default.asp?lang=En&n=31D9FF32-1

www.ec.gc.ca

Additional information can be obtained at:

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Inquiry Centre
10 Wellington Street, 23rd Floor
Gatineau QC K1A 0H3
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TTY: 819-994-0736
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